
AMERICAN GAS ASSOCIATION MONTHLY

Some Trends in the U. S. Gas Industry

Prepared by A. G. A. STATISTICAL DEPARTMENT

The Farm Goes Modern—with Gas

By RICHARD BOONSTRA

The Trend of Gas Sales in Kansas City

By RAY T. RATLIFF

These Are the Agencies of Progress

By ALEXANDER FORWARD

Storing and Measuring Large Quantities of Gas

By SAMUEL W. MEALS

Gas Plays Part in Ceramic Week

By ALEXANDER B. GREENLEAF

Are Sales Conditions Different?

By CLYDE H. POTTER

Many Companies Apply for Space at Kansas City Convention

March, 1929



Volume XI
Number 3

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Volume XI

MARCH, 1929

Number 3

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THE DATES OF
THE NATURAL GAS
DEPARTMENT
CONVENTION
AT KANSAS CITY,
MISSOURI

* * * *

PLAN NOW
TO BE THERE
THEN.

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Our Own Who's Who



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XLVI

ADDISON B. DAY

BORN Mar. 19, 1874, Chicago, Ill. Moved to Los Angeles, Calif., at age of 12. Educated in grammar and high schools of Chicago and Los Angeles. Entered business life in 1895, in the service of Los Angeles Lighting Co., a predecessor of Los Angeles Gas & Electric Corp. Entire career has been with this utility in its various corporate stages. Positions held, in their order: Gas appliance sales, bookkeeper, chief clerk, Los Angeles Lighting Co.; chief clerk, Los Angeles Electric Co.; manager of appliance department, auditor, assistant secretary, manager of operation, general superintendent, vice-president and general manager, executive vice-president and general manager, and, since March, 1928, President and general manager of Los Angeles Gas and Electric Corp.

Was president of Pacific Coast Gas Ass'n in 1920, and has been active in American Gas Association affairs.



AMERICAN GAS ASSOCIATION MONTHLY

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Some Trends in the U. S. Gas Industry

Prepared By A. G. A. STATISTICAL DEPARTMENT

FROM a study of data relating to the gas industry of the nation as a whole, it would appear that, in the manufactured branch of the industry, one of the most significant economic trends of recent years has been a marked increase in the production of coal gas, and a lessening, and for the past two years, an actual decrease, in the amount of water gas produced. These trends are shown in Chart 10, of American Gas Association Statistical Bulletin No. 6. Preliminary estimates indicate that the production of water gas decreased by about two per cent in 1928.

Some of the major economic trends in the utilization of natural gas are shown on Chart 1, the first of the accompanying charts. The most pronounced increase in recent years has been shown in the use of natural gas for field use, mainly drilling and pumping, doubtless as a result of greatly expanded operations in the petroleum industry during that time. The consumption of natural gas for domestic or household purposes has also shown a steady and sustained growth during the period.

It is of interest to compare these developments in the country at large with events in the six states embraced within the territory of the Pacific Coast Gas Association, namely California, Washington, Oregon, Arizona, Nevada, and Idaho.

A study of Chart 2 indicates that the broad economic trends operative in other sections of the country have here their reflection also. This chart indicates a marked,

and with the exception of the year 1925, a continuous decline in the volume of water gas manufactured on the Pacific Coast, while within recent years the production of coal gas has increased.

It is realized, of course, that one of the more significant characteristics of the region under discussion is an abundance of natural gas and petroleum. This fact is also manifest from Chart 2, by the much greater use of oil gas and natural gas within the region.

It should perhaps be explained that most of the water gas and coal gas shown on Chart 2 is produced in the state of Washington.

Since much the greater proportion of the gas produced and consumed in these states is to be found in California, it should be of some interest to consider developments within that state.

Undoubtedly the most significant aspect of Chart 3 is the marked increase in the production and use of natural gas. Prior to 1927 the production of oil gas in the state of California showed a steady and uniform increase. In 1927, however, the increased use of natural gas resulted in a lessening in the rate of production of oil gas, and it is probable that complete data for the year just closed will indicate an actual decrease in the amount of oil gas produced.

Turning from those phases of the industry relating to production, it is of interest to consider some factors reflected in sales.

Chart 4 shows the average daily sendout, by months, for five representative gas com-

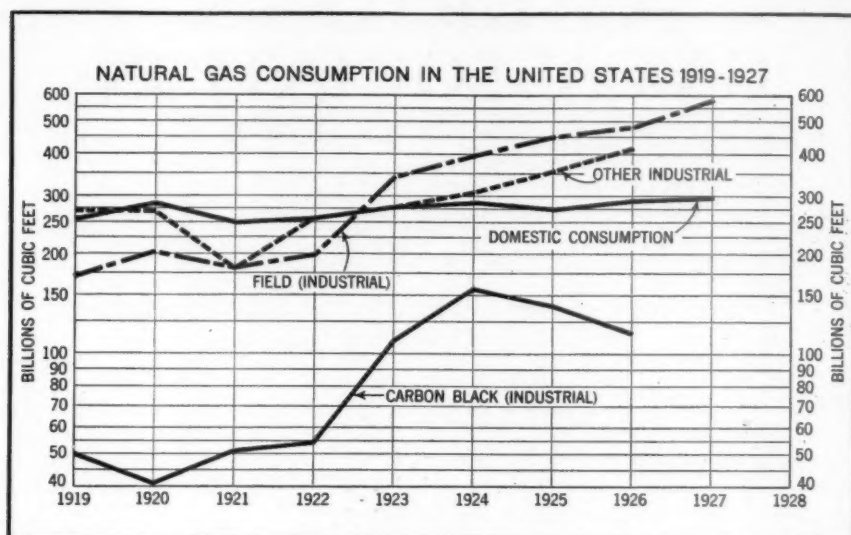


Chart 1

panies located in various sections of the country. It should perhaps be noted that these charts are of the type termed ratio charts. Such charts show the percentage changes and allow direct comparisons between the slope of one curve and that of any other curve, regardless of its location on the diagram; that is, a 10 per cent increase in an item is given the same vertical movement whether its curve is near the bottom or near the top of the chart, that is, these ratio charts compare percentage changes, while the ordinary arithmetic charts compare absolute changes.

It will be apparent from Chart 4, that there is considerable difference in the sales curve of the five companies shown. Company A shows a marked decline in send-out after the winter months, giving a very low summer valley. Company B, while its winter sales or sendout are not nearly so great, yet shows more sustained and uniform activity throughout the year.

Perhaps the most marked contrasts are to be found from Companies C and D. Company C shows the somewhat unusual situation of sendout increasing from January on and reaching somewhat of a peak in

May, before the summer recession in sales starts. The sales of Company D, on the other hand, decline steadily from the high point of the winter months, and the percentage decrease for the summer valley is much greater.

To compare further these two companies, reference may be had to Charts 5 and 6. On the right hand side of Chart 5 is shown the sales by months for Company C, subdivided by classes of business. Since domestic and house heating sales constitute a very large proportion of the company's sales, it is natural that the total sales will tend to follow somewhat closely changes in this class of business. It should be observed, however, that the industrial load is quite uniform throughout the year, which is also true of the commercial sales, except for the months of July and August when some recession sets in.

Comparing these conditions with the sales curve of Company D shown on the right hand side of Chart 6, it will be seen that here the commercial business is a much greater proportion of the company's sales, and the seasonal decline in this commercial business is an important factor contributing

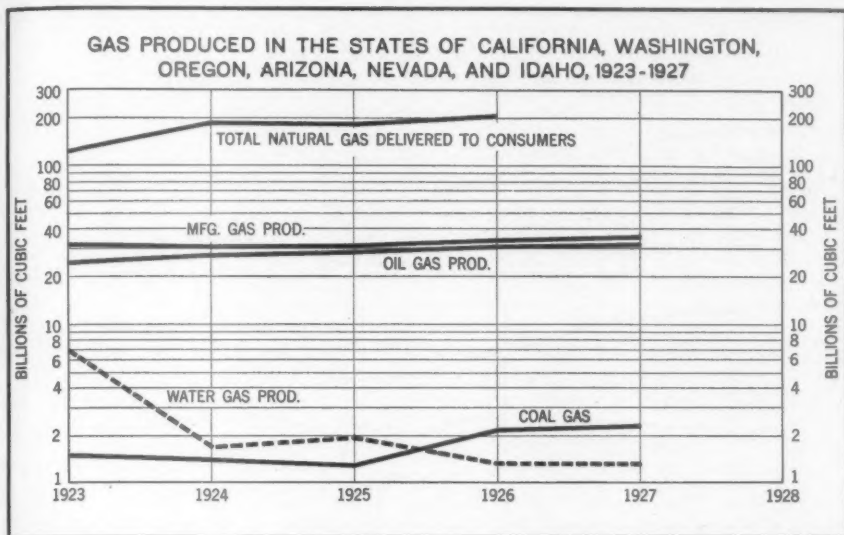


Chart 2

to the somewhat greater recession in sales experienced during the summer months.

The initial part of this explanation commented on some of the changes in production occurring in the industry during recent years. It is of some interest, therefore, to

examine the manner in which the two companies just discussed provide for their gas sales requirements during the course of a year.

On the left hand side of Chart 5 is shown by months for Company C the gas produced

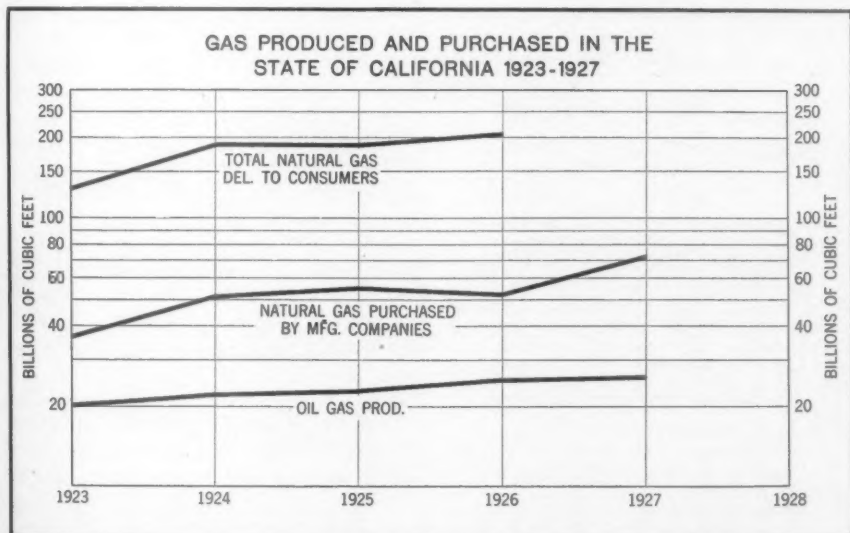


Chart 3

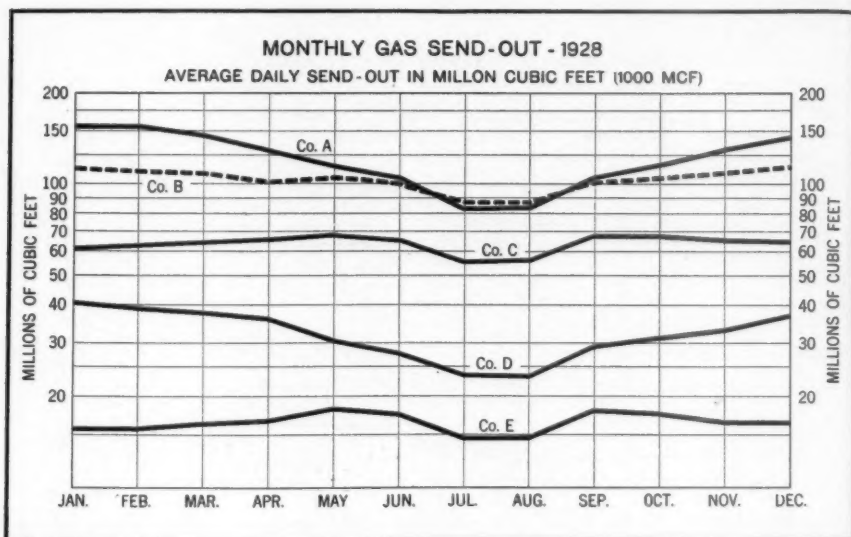


Chart 4

and purchased which is available to meet the requirements of the sales curve shown on the right hand side of the chart. It will be noted that the rate of operation of coal gas plants is almost uniform throughout the year, the slight ups and downs in the

curve of coal gas production being caused almost wholly by the varying number of days in a month. The amounts of coke oven gas purchased are also uniform, although rising somewhat in the summer months.

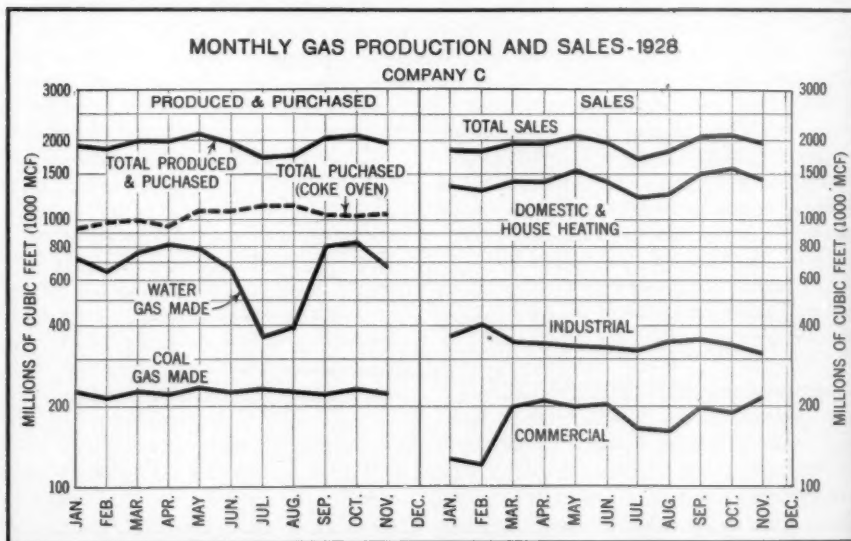


Chart 5

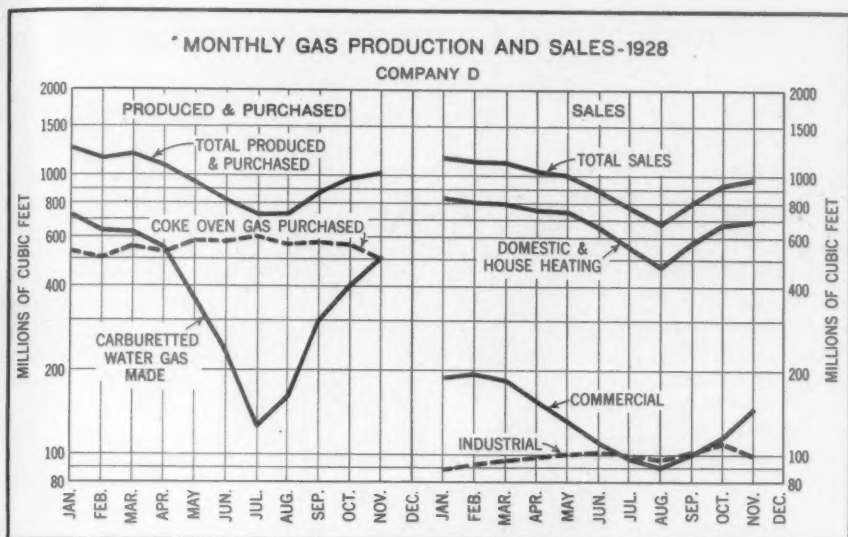


Chart 6

Most of the fluctuations in production are therefore taken up by the water gas equipment, which from the chart would appear to be operated at capacity only a relatively few days a year.

Somewhat the same general considerations are found in the production activities of Company D, shown on the left hand side of Chart 6. Here the base load is carried on purchased coke oven gas and the seasonal fluctuations in production are again taken up by the water gas equipment. In this case, however, since the seasonal fluctuations in sales are much more pronounced, the effect on the water gas production is magnified, the percentage drop in water gas production during the summer months being much more pronounced.

Examination of these charts cannot but focus attention upon the necessity of thought and consideration being accorded the problem of levelling out as much as possible the seasonal fluctuations in sales by the development of types of business where loads will be more uniform and thus tend to offset the seasonal fluctuations inherent in the usual domestic business.

Since the success of any business must be judged ultimately by its effective utilization

of invested capital, the factors discussed above become of great import for such gas utilities, since there is no type of business which approaches ours in the amount of capital which must be provided for the conduct of the business, and all developments which tend toward a more effective utilization of such capital, cannot help but redound to the more successful administration and greater potentiality for service of the utility.

Pyncheon Has Booklet on Gas

THE greatest expansion in the gas industry in 1928 took place in the natural gas fields, the estimated increase in production there being about 10 per cent over 1927, while the output of manufactured gas was about 2.3 per cent greater, says the 1929 public utilities pamphlets of Pyncheon and Company. The data in the booklet were supplied by the American Gas Association.

The publication gives the statistics of the industry. The following is quoted directly:

"Continued growth and development and expansion into new and wider fields are regarded by gas executives as being ahead of their industry. To a greater extent than ever before the needs of the future are being anticipated."

Organizing and Operating an Industrial Gas Department

By W. A. HUDSON

ANY company, in order to be most successful, must secure the largest amount of gross sales of gas which will bring profitable returns. The commercial and industrial gas business not only tends to build up large volume, year round consumption but, because of its diversified nature, improves the hourly and seasonal load factor of a given system. With most industrial customers, the hourly and daily peaks come at different times from the domestic peaks and in the majority of cases, the spring, summer, and fall consumption exceeds the winter consumption. This tends to offset the peak caused by house heating. For this reason, the domestic, commercial, and industrial fields should be developed as near to saturation as possible.

Opportunity now knocks at our doors. The day of the finished product in the South is here, and with the finished product industrial gas comes into its own.

Are you as Southern gas companies preparing yourselves to take advantage of this opportunity? Now is the time to study the possibilities of industrial gas in each of your districts and to equip your present industrial department so it can function to the best advantage. If you do not have an industrial department, now is the time to start one.

Mr. Hudson is industrial gas engineer, Birmingham Electric Co., Birmingham, Ala.
Presented at Southern Regional Gas Sales Conference, Atlanta, Ga.



© Nation's Business

"Know your market" is more than a casual phrase, whether selling fans or industrial gas. The industrial gas survey is a tried and true method of securing market facts

Many are saying that all of this is good talk for the large gas companies, but what of the small ones with high-priced gas? What can we do with an Industrial Gas Department? My answer is, "There is industrial business in every town," and it is profitable to secure it.

In order that a perspective might be obtained of the situation which confronts the various gas companies in the South,

a "gas sales questionnaire" was prepared and mailed to 72 companies.

Thirty were returned and from the information given the three summaries were prepared for gas companies serving a population of from 4,000 to 15,000, 15,000 to 50,000, and 50,000 to 425,000, respectively.

Assuming that you have no industrial department, the management should endeavor to find the right man to appoint as industrial gas engineer. If possible, pick one out of your own organization if he has the proper qualifications. If you do not have such a man, don't hesitate to obtain one from the outside. The price of man will be governed by the potential possibilities of gas in your district. However, after you've obtained such a man and a trial shows that he can produce, don't make the mistake of paying him too little.

The qualifications of an industrial gas engineer are many, but briefly they are: Technical education, preferably mechanical or chemical engineering, unusual amount of

(Continued on page 183)



This is the farm on which gas is used extensively

The Farm Goes Modern—with Gas

By RICHARD BOONSTRA

AT present the farmer's knowledge of gas is mostly limited to cooking. Generally speaking, the farmer does not know that we are already using gas in twenty different ways on our Model Farm, which was built primarily for the purpose of showing him how mechanical devices can be utilized to reduce labor costs and how he can have a comfortable modern home for his wife and children.

John G. Learned, vice-president in charge of sales, Public Service Company of Northern Illinois, in his address upon opening the Model Farm to the public on August 11, 1928, called attention to the possibilities of utilizing gas on the farm, and after reading the facts brought out in this article, we believe you will agree with us that it has many practical applications.



GAS on the farm is new! And yet on the farm described by the author, gas is utilized in twenty different ways. Mr. Boonstra has devoted the last five years in the sales organization of his company to the study of utilizing gas and electricity on the farm, and his knowledge is based on actual experience.—EDITOR.

sulated. All of these ideas are incorporated in our Model Farm home.

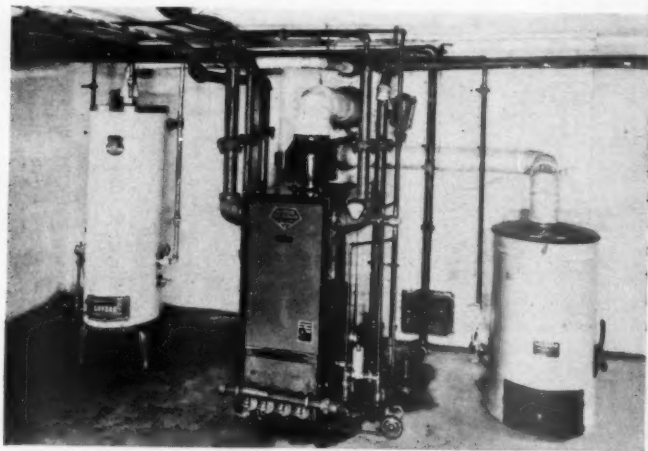
In the well-planned home equipped with the automatically controlled gas-fired heating plant, the farmer lets gas be his chore boy around the house. All he does is to adjust the temperature regulator to suit his convenience. No more wood boxes to fill or no more getting into frozen boots early in the morning to go to the barn before breakfast. No wonder the farmer is in good spirits; no wonder he produces quality products when he lives in such an environment. His wife is not too tired to talk

The farm woman's sense of a comfortable home has changed considerably in the last twenty-five years. In the early days she was content to live in a sod house on the prairie, later a small house made of logs, but now she wants a house built that is attractive to the eye, made of good materials and well in-

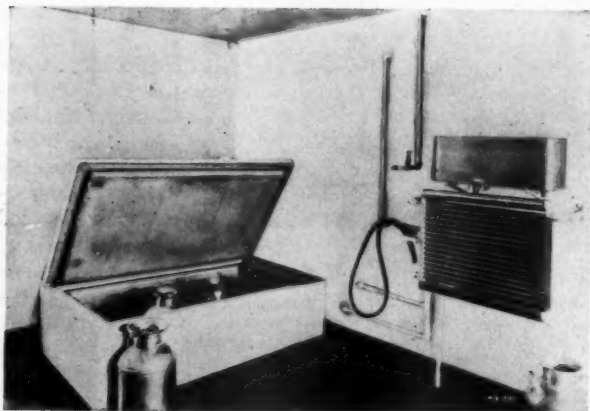
Mr. Boonstra is agricultural engineer of the Public Service Co. of Northern Illinois, Chicago, Ill.



J. G. Learned, vice-president of the Public Service Company of Northern Illinois, who gave the address of dedication at the opening of the model farm which uses gas for so many purposes



Above are illustrated the gas-fired hot water boiler, the storage water heater, and the incinerator which are in the modern home on the Model Farm



The milk aerator and milk storage tank are shown at the left. Both of these are cooled by mechanical refrigeration. The system is operated by gas, and, needless to say, this ideal fuel is greatly appreciated by the farmer when doing his chores

At the right is illustrated the process of sterilizing the milking machine. High pressure steam generated by a gas-fired boiler does the job, and is a great improvement over the old-time methods



things over at night because she spends her day in the home quietly giving orders to her two servants, gas and electricity, who never threaten to run away and who always ask for decreased pay as their duties multiply.

Now let us follow the farmer around the Model Farm and see what gas does for him. He goes to the garage where it keeps the cars from freezing and makes it possible to use the workshop in winter weather. It operates the forge, does welding and soldering, and is a valuable servant in repairing all farm machinery.

The farmer enters the dairy building, where gas makes it possible to generate sufficient steam in ten minutes to sterilize the milking machine and equipment for a herd of twenty milk cows. Gas is also used in winter to make cold water warm enough for stock and poultry to drink. On butchering days it is used to singe the pin-feathers of the poultry and the hair of the hogs.

Few people realize the wonderful help gas can be in raising poultry. We made the interesting discovery that all incubators now burning oil can be operated cheaper with gas. At the same time gas requires less labor, and the temperature is regulated so evenly that our customers claim they get a greater percentage of eggs hatched. Gas is also well-suited to raising the young chicks in brooders.

Since chickens are particularly fond of green food in winter, we developed a machine which will sprout oats, utilizing gas as fuel. In the spring this same machine can be used for testing seed corn, and in the summer for drying fruits and vegetables.

Our Model Farm utilizes electricity in 125 different ways. It also utilizes gas in twenty different ways and before 1929 closes we hope to develop double this number of uses.

Among the practical uses of gas on the farm are:

Hot Water House Heating: Heats home.

Storage Water Heating: Heats water for home or dairy.

High Pressure Steam Boilers: Used in dairy for sterilizing mechanical milking equipment, milk cans, and milk carrying utensils.

Stand Pipe Heating: Steam pipes may be run from high pressure boiler up into stand pipe, eliminating freezing.

Garage Heaters.

Gas Steam Radiators: Primarily used in a dairy.

Combination Iron: Is an attachment which may be used by removing wringer on washing machine; to iron clothes.

Heatrola: A circulating type of heater.

Gas Incinerator.

Gas Range.

Radiant Fire.

Clothes Dryers.

Incubator: Circulating coils are placed in incubator connected to a water tank which is heated by gas. Temperature is controlled by the pancake thermostat.

Forge Cutting and Heat Treating.

Soldering: Gas may be connected to soldering furnace.

Laundry Stoves.

Refrigeration.

Stock Water Heater: Is a gas furnace, emerged in the water tank.

Poultry Water Heater: Is small gas burner placed under boiler fountain; raises the temperature of water to desired heat.

Heating Sprouters and Germinators: Sprouter is heated by exterior type burner, same being placed under water compartment which is located under sprouter. Air passing over water compartment is heated and circulates up through machine, maintaining an even temperature at all times.

Fruit and Vegetable Dryer: This is a circulating type of hot air heater; cold air coming in through bottom of dryer, passing through trays and out top of heater, being assisted by small circulating fan placed in dryer, thereby making a very rapid circulation of air through heater at all times.

New Yorkers Win Medal and Certificate

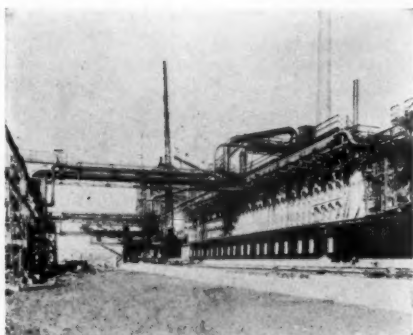


G. C. Lehman

TWO employees of the East River Gas Company, New York, N. Y., were recently honored for noteworthy service when they were presented with the McCarter medal of the American Gas Association. These employees are George C. Lehman, who received the McCarter medal and certificate for saving human life by the prone pressure

method of resuscitation, and William Heiselman, who received the McCarter certificate for assisting Mr. Lehman.

Philadelphia Now Has Coke Oven Gas



The new plant at Philadelphia

COKE oven gas purchased from the new plant in the northeastern section of Philadelphia is now being mixed with gas manufactured in the city's plants and distributed to consumers in the city, according to Paul Thompson, president of The Philadelphia Gas Works Co.

The coke oven gas, which went into the city's mains for the first time on Jan. 30, is purchased under an ordinance of Council granting the gas company permission to contract for coke oven gas.

The coke oven plant, which is modern in every respect, is located on a sixty-five acre tract on the Delaware River at Richmond and LeFevre streets, just above the Atlantic City Bridge of the Pennsylvania Railroad. Its erection was started last April by The Koppers Co., and its cost was in the neighborhood of \$8,000,000. The plant will be operated by the Philadelphia Coke Co. Coke from the plant, it is understood, will be sold by the operating company chiefly for domestic fuel.

"There is a great advantage in this contract to the people of Philadelphia," Mr. Thompson stated, "as it postpones for a number of years large investments which otherwise would have to be made for additions to the city gas plants, to take care of the increased consumption as the city grows. In other words, the wisdom of Council in granting permission for the purchase of gas will be seen in years to come, as the City of Philadelphia will not be required to furnish any money for development of its gas plants until the requirements of the city exceed their capacity and the additional amount the coke oven plant can supply to The Philadelphia Gas Works Co. At present twenty to twenty-five per cent of the total amount of gas required will be purchased from the coke com-

pany. Later, there is a possibility that the capacity of the coke plant may be increased.

"The value of the city's gas works is in no way impaired by the purchase of this gas."

In 1928 a total of 19,901,229,000 cu.ft. of gas was sent out from the Philadelphia Gas Works.

N. E. Managers Elect

AT the annual meeting of the New England Association of Gas Managers, held Jan. 25, the following officers were elected:

President—L. B. Whittemore, Boston Consolidated Gas Co., Boston, Mass.

Vice-president—John J. Winn, Jr., Fall River Gas Works Co., Fall River, Mass.

Secretary-treasurer—Joseph F. Bracy, Suburban Gas and Electric Co., Revere, Mass.

W. C. Grant Joins Lone Star



W. C. Grant

WILLIAM GRANT, of Dallas, Texas, director of the Texas Public Service Information Bureau, has resigned to accept a position with the Lone Star Gas Company. He will be engaged in public relations work for the Lone Star and subsidiary companies, and will have headquarters in Dallas.

Mr. Grant has been director of the Texas bureau since June 1, 1927, having succeeded the late George McQuaid. He is also secretary of the Southwest Division, Natural Gas Department, American Gas Association.

The Lone Star Gas Company is the oldest field company in the Southwest, having started operations in 1909. It supplies gas to more than 200 cities and towns in Texas and Oklahoma, among its larger cities being Fort Worth, Dallas, and Wichita Falls. The company operates about 3,000 miles of main pipe line and draws gas from 20 fields.

IN the December issue of the Monthly it was announced that George H. Waring, of Grand Rapids, Mich., had become president of the Compania General Argentina de Luz y Fuerza, at Rosario, Argentina, South America. Mr. Waring's address is still 624 Grand Rapids National Bank Building, Grand Rapids, where he maintains his office as consulting gas engineer.

The Trend of Gas Sales in Kansas City

By RAY T. RATLIFF

SEVERAL years ago progress dealt gas companies a peculiar hand to play. Although holding the same cards which the companies had won with for many years, they found themselves losing each year when Father Time called for a new deal. The Kansas City Gas Company was not immune from losing.

The company's ledgers said that old customers were being retained and that new ones were being added each year, due to the city's rapid growth. Yet there was a steady decrease in revenues. Progress was bringing about a radical change in the gas industry. Gas lights gave way to electric lights. The art of home baking gave way to the corner bakery. Delicatessens, laundries, apartments and many other developments and trends of progress were factors in the loss of revenue from domestic customers of the gas company.

Each year the company found it necessary to invest additional capital in the distribution system and in equipment to keep in step with the city's rapid growth. Taxes, payroll, and operating expenses increased steadily, while the gross revenues were decreased gradually. This is not a hardy condi-



THIS presentation of facts regarding the sale of gas in Kansas City is of specific and timely interest. In addition to stating concisely and forcefully the sales trends of an important gas company, the article gives those planning to attend the Kansas City convention of the Natural Gas Department a clear picture of conditions in their convention city.—Editor.

tion in any business but one that confronted practically every gas company.

With the finding of new natural gas reserves, gas was made available for house heating. Its popularity as the ideal fuel for heating spread rapidly and once more the revenue trend was upward.

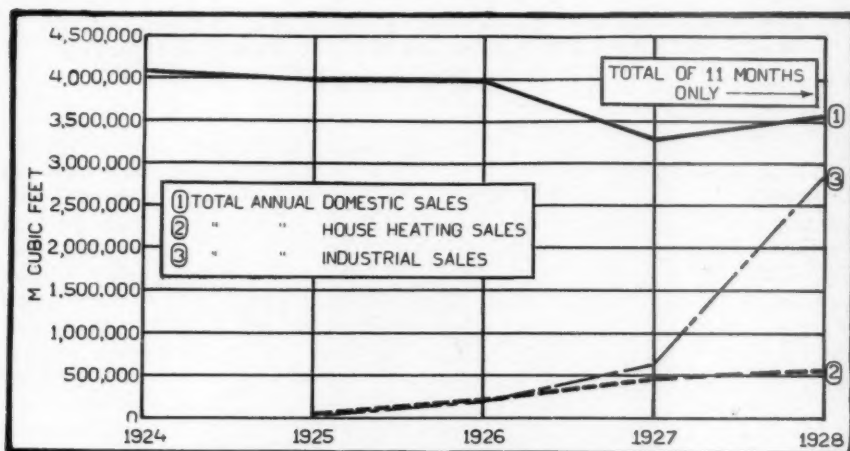
In June, 1925, the Kansas City Gas Company launched its first house heating campaign. Since

that time sales efforts of the New Business Department have been concentrated upon house heating, and the sale of 1,291,503,000 cubic feet of gas has been the result. The house heating load has proved to be a desirable one. Heating equipment has been sold in all parts of the city, thereby giving an even distribution of the load upon the feeder lines and has contributed its full share in increased gas sales.

House heating being seasonable, the company was desirous of obtaining a load to act as a balancing factor—a load that would flow through the Company's mains twelve months out of the year. Industrial gas was the answer to this problem. In 1925 very little industrial gas was sold in Kansas City, but today practically all of the large industrial firms in the city are using gas for fuel.

Much research and experimental work

Mr. Ratliff is advertising manager of the Kansas City Gas Co., Kansas City, Mo.



Gas sales progress of Kansas City shown in chart form.

was necessary to secure this large volume of business. Practically every industry presented new problems in the manufacturing of products which ranged from ice cream cones to steel rails. Obstacles were met, however, and 3,758,938,000 cubic feet of industrial gas has passed through the company's mains since 1925.

To help secure this business, an industrial booklet titled "Gas—A Contribution to the Industries of the Kansas Cities," was published. The first few pages of this booklet give a brief history of the company's pipe line facilities and of the ability to serve. The balance of the booklet is devoted to twenty-eight of Kansas City's leading industries, many of them nationally known, who were at the time the booklet was prepared using gas for fuel. An exterior picture of the company's plant is shown at the top of the page; in the lower corner there is a picture of the gas burning equipment, and opposite this there is an artist's drawing which brings in the human element present in the manufacture of various products. A brief story of the company and its products is also given and in the last paragraph mention is made of the monthly gas consumption in that particular plant.

The consumption of these industries ranges from 100,000 cubic feet to 360,000,000 cubic feet a month.

The industrial booklet served many purposes. It was printed evidence that the Kansas City Gas Company had the facilities and could furnish industrial gas in abundance, that natural gas could compete with other fuels, and that its popularity as an industrial fuel was established. It gave the consumer favorable free publicity which acted as a good will medium. All in all, the industrial booklet was invaluable.

Today the Kansas City Gas Company is supplying its domestic house heating and industrial customers with a volume of natural gas that is surpassed by only few cities in the world. Gas as a fuel has proved its worth, has established its popularity, and is contributing its full share to the progress of Kansas City.

The "Coal Nose"

AMERICA'S growing smoke menace has coined another medical term. This time it is "coal nose." The term is used by surgeons in the Mayo Brothers' Clinic, at Rochester, Minn., to describe a person who has breathed coal smoke all of his life.

There are also "coal throats" and "coal lungs," according to Dr. A. H. Kegel, Chicago health commissioner. He says it is a well-known medical fact that it is a rare thing to find a person who lives in a bituminous coal-burning region whose nasal passages and lungs are free from accumulations of carbon particles.

Practical Aspects of Visiting Other Gas Companies

By F. C. FREEMAN



F. C. Freeman

IF we were to isolate a child from the rest of the world and feed and clothe it and give it book reading, we would have a man in physical form at the age of twenty-one but would still have a child as far as its usefulness to the world is concerned. The child would lack human or worldly contact and this would mean no personal experience or benefit of experience of others and hence no growth in the education of the child.

We do not grow within ourselves. Progress comes by our doing things—personal experience—and by what we know of what other folks have done and are doing—the experience of others. We may learn of what other folks have done, or are doing, by hearing or reading of them, but a big open field remains and that is—seeing. There can be no question that going to the other place to see has value. The questions rather are, where shall we go and who shall do the seeing?

It is the duty of management, through trade papers, salesman contacts, association and society meetings, personal contact, and correspondence, to know in a general way what the other fellow is doing, so that when a problem arises on which the manager desires other experience than his own he may know where to go. It is preferable to go to a place to see with a definite problem or objective in mind, although this should not alone be the type of visits made. We should occasionally visit places without any definite purpose in mind, sort of hunting or prospecting expeditions.

We may be out of town perhaps at some

plant for something definite, or relative to machinery we may have purchased, or to a committee or association meeting, and usually there is another gas company nearby which we could take in on the trip, an extra few hours or even an extra day may give us something of value from the company we visit without having anything definite in mind when we went there. We may come away without anything of material value to ourselves, we may not have been able to give the other fellow something that we had, but at least we could form a friendship which may be of great future value. So our visits to others, either with or without something definite in mind and with or without material benefit, have nevertheless the important value of a friendship made.

The topic under discussion states "visits to other plants." It is hoped that the term "plants" is intended as a general one, not meaning the gas plant alone but all phases of our industry. Visits are of value to the sales force, customer order and complaint department, records, accounting, service department, just as much as they are for the men of the plant.

The Open Mind

Some phases of our work may be going along satisfactorily and smoothly in our opinion, but we should not be self-satisfied and feel that there may not be a better way than ours. The self-satisfied man will usually make no visits and hence his own way is the only way he knows. It may just be possible that his way is the best way but proof of that can only come through comparison. It is a mistake to visit others convinced before the visit that the way we do things at home is the best way, or to look for the poor points of those we visit. Our attitude of mind should be broad, open, unbiased, seeking the good, and willing to change to the good when we find it. We

Mr. Freeman is vice-president of the Providence Gas Co., Providence, R. I.

should visit other places with the view of improving our methods and machinery rather than with the feeling that our way is the best and therefore look for the weaknesses of the other fellow.

To us as sales managers, engineers, treasurers, agents, and managers, etc., this matter of visits to other places may not seem important and it may not be to us individually, because we may feel that we have more or less arrived and have other methods of contacts. Nevertheless, even to ourselves an occasional visit can do no harm and may do some good. We may have worked as cadets or apprentices in different districts of a large company or in different departments of a company, or may have moved from place to place in our apprenticeship. All of this has given us broader vision, better adaptability, and has better fitted us for our positions.

In our companies and industry we have men whom we expect to develop and later lean on. We should give such men the same opportunity that we ourselves have had. A visit always gives a comparison of persons, ideas, methods and machinery. To the man who has something in him "comparison" oftentimes starts him on the road to improvement.

We all must agree that there is a favorable reaction in an employee toward his company when he is selected for a visit to another plant. Such visits help the loyalty and interest of an employee in his company.

Visits to other places cause the worthwhile employee to think. If he is interested in his home job, he cannot help but think when he sees how the other fellow does things. Many things seen at another place may be of no immediate value but the discerning visitor tucks such things in the experience corner of his mind and draws upon them in the future. Two men who meet, each with an idea, upon an exchange go away each with two ideas. A visit to another place should make a man more satisfied with his present position; if it does not, there is something wrong with the man himself or the organization he is in. If the man is good and his organization wrong,

he should try to help his organization. If the man is wrong, he should not have been sent in the first place.

Men whom it would seem reasonable to send on visits would be department managers and assistants, cadets and foremen. The test should be the ability of the man to bring back home the information on the subject which he went to investigate. On general visits men should be sent whom you desire to develop in your own organization, or men who have sufficient other men in their charge to pass better ways and means along to, a rough test being the man who handles twenty or more men. In a small company there might be only one man who should make visits, whereas in the largest New England companies there may be thirty in all the branches who are eligible to go at different times.

Things of Value

There are many things which a man may "see" on a visit. In a general way a few of them are: Efficiency of operation, plant appearance, personnel, equipment, forms, methods, peculiar problems and their solution, wrinkles, customer contact, orders and accounting, sales advertisement, show rooms and personnel, etc.

Following are some specific benefits which the Providence Gas Company has experienced through visits to other places after specific information.

Improvement in the personnel and operation of an indirect sulphate plant.

Improvement in the design and construction of producer gas generators.

A fine coke handling, screening and delivery plant.

Backrun and automatic water gas operation.

Welding of high pressure lines and services.

Distribution governor operation.

Clearing of house piping.

Non-locking and the tagging of meter cocks.

Some specific benefits incidental to general visits to other places are:

(Continued on page 182)

Graduate Students Work on A. G. A. Research at the University of Michigan



W. E. Sicha



C. P. Teeple



M. L. Michaud



D. W. Murphy

THIS year, there are three active gas research projects being conducted at the Department of Engineering Research of the University of Michigan under contract with the Committee on Industrial Gas Research of the American Gas Association. These projects are all carried over from last year, the work having been well organized prior to the beginning of this year.

One of the advantages of conducting scientific research in a well-equipped university is the ability to secure as assistants in the work an unusually high type of men. These assistants are generally men who are working for their masters' or doctors' degrees in engineering or chemistry. They work part time on their post graduate studies and are assigned to research work for the greater part of the time, usually as research fellows. Men who qualify for this work have generally had some practical experience in their line following the completion of their undergraduate work. This serves as a splendid basis for their research work.

Research assistants of this type develop a particular enthusiasm for their work. They are selected because they have shown ability to pursue successfully the unknown. In addition they have a keen personal interest because their research work helps toward the higher degree. Generally their research work also serves as the basis for theses.

The American Gas Association Industrial Research Committee is particularly fortunate

in having the four young men who are working this year on the gas research in core baking, decarburization, and forging. These men work under the direction of Professor H. L. Campbell, who is in charge of the gas core baking research, and W. E. Jominy, who is in charge of the decarburization and gas forging researches.

Following is a brief outline of the careers of the four A. G. A. research workers at the University of Michigan.

Donald William Murphy

American Gas Association Fellow in Metallurgy engaged in research work on the forging program at the University of Michigan.

Mr. Murphy has the degree of Bachelor of Science in Engineering received at Detroit City College. He is a candidate for the degree of Master of Science in Engineering at the University of Michigan. During his vacation periods Mr. Murphy was employed in the chemical laboratory of the Detroit City Gas Co. and in the research laboratory of The Detroit Edison Co.

Charles Paul Teeple

American Gas Association Fellow in Metallurgy engaged in research work on the forging program at the University of Michigan.

Mr. Teeple obtained the degrees of Bachelor of Science in Engineering and Master of Science in Engineering at the University of Michigan and is now a candidate for the degree of Doctor of Philosophy in Chemical Engineering. During the school year 1927-1928, he was a teaching assistant in the Department of Chemistry at the University of Michigan. During his

vacation periods he was employed as research engineer for the Conover Co., Chicago, Ill.

Walter Edmund Sicha

Part-time Research Assistant engaged in the investigation of decarburization of steel in furnace atmospheres at the University of Michigan for the American Gas Association.

Mr. Sicha obtained the degree of Bachelor of Science in Metallurgy at the Case School of Applied Science in 1928 and is a candidate for the degree of Master of Science in Engineering at the University of Michigan. During his vacation periods Mr. Sicha has been on the technical staff of the Aluminum Company of America in the alloying department, and in the heat treatment department of the Warner Swasey Co.

Martin L. Michaud

Assistant in the American Gas Association research at the University of Michigan on the use of gas in core baking ovens.

Mr. Michaud is a senior in the Chemical Engineering Department at the University. During the year 1926, he was part-time assistant in the Department of Engineering Mechanics. At the end of this year he left college and went to the metallurgical laboratories of Dodge Brothers where he spent a year at physical testing of materials and research on steel. In September, 1928, he returned to the University to assist in the research on gas core ovens for the American Gas Association.

Addresses Are Based on A. G. A. Research



W. E. Jominy

gas research at the University.

The subject covered by Mr. Jominy was "Overheating and Burning of Steel at Forging Temperatures," and it was particularly well received by the audience, which was composed chiefly of metallurgists working in the automotive industry.

AN address based on the results of the American Gas Association research work at the University of Michigan was given before the Flint, Mich., chapter of the American Society for Steel Treating on Feb. 11 by W. E. Jominy, of the Department of Engineering Research at the University. Mr. Jominy is the metallurgist in charge of the A. G. A. industrial

Mr. Jominy will also deliver the same address before the Pittsburgh, Pa., chapter of the American Society for Steel Treating on March 7.

McGowen Heads New Company



N. C. McGowen

Gas Co., Electric Power & Light Co., Columbian Carbon Co., the United Carbon Co., and the Palmer Corp.

The combined companies control 70 per cent of the natural gas reserve of the Louisiana and Texas producing districts, it is stated, and will furnish natural gas in the St. Louis area to a potential market of 150,000,000 feet daily.

Details of organization of the corporation, of which N. C. McGowen, vice-president of the Palmer Corp., is to be the chief executive, will be made known later.

The line will be approximately 460 miles of 22-inch coupled, with five compressor stations, the first of which will be in the field and the remaining four spaced at intervals of approximately 100 miles. It will have an initial capacity of around 100,000,000 feet per day and, when business warrants, will be looped. It is designed as strictly an industrial gas proposition to service large industries in St. Louis, East St. Louis, Alton, and Granite City, which have contracted for practically its entire initial capacity.

The route will be north by east from the gas fields through the prairie country of eastern Arkansas with the Arkansas, White, and St. Francis as the major river crossings. The former presents an engineering problem outranking anything builders of pipe lines encountered on existing lines due to the characteristics of the Arkansas, and the White and St. Francis with their flood basins also present difficulties peculiar to themselves. H. C. Cooper of the Standard Oil Co. of New Jersey is the chief engineer on the job and will also be one of the executives of the syndicate owning the line.

THE Mississippi Valley Fuel Corp., a syndicate headed by Standard Oil Co. of New Jersey, has been organized to establish a gas pipe line from the Monroe Field in Louisiana to St. Louis, Mo. The project will involve the expenditure of between \$25,000,000 and \$30,000,000. In addition to the Standard Oil Co. of New Jersey the syndicate includes United

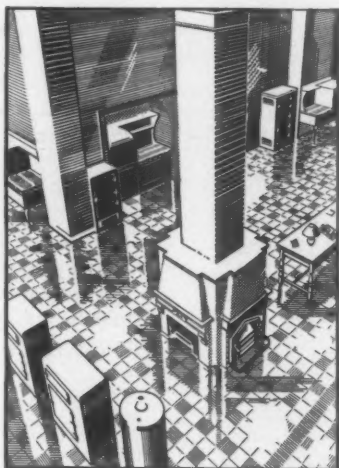
Merchandising by Public Utilities

By FRANCIS X. WELCH

BRIEFLY, utility service is that which the company is obliged to perform and which it cannot refuse to any member of the public conducting himself properly and willing to pay the proper compensation. Can the gas company be obliged to sell water heaters? No! A series of such questions will quickly separate the two classes of service.

But the difference isn't always so clear. Take the case of a company making artificial gas. After the gas is withdrawn from the coal the company finds that it has large quantities of coke on hand, say for round figures, a thousand tons a month. If the company could organize a retail department, this could be disposed of at a tidy profit of, say \$8000. Assume that a wholesale coal company is willing to take the lot over for \$5000 monthly. Here is the question. Can the company be compelled to sell the coke retail or wholesale or at all? The company's franchise obliges it to sell gas, not coke. Would it be justified in dumping the lot out into the river?

This is clearly a little different from the sale of vacuum cleaners. Here is a by-product, a necessary incident in the operation of the utility. If the operating expenses are reduced by \$8000 or \$5000, the rate payers' burden will be eased in proportion. There has been no definite decision on this point for the simple reason that no utility has ever been foolish enough to dump valuable coke out on the trash heap. Various opinions on this proposition, however, indicate that the Commission would not allow a wilful waste



What is the so-called "legal" status of merchandising by gas utilities?

of such a valuable commodity; nevertheless, the proper means of disposal would be a matter within the managerial discretion of the utility. The Illinois Commission has decided that the mere fact that a gas company disposed of its coke residual by contract prices lower than open market prices did not warrant the conclusion that the company's operating expenses were excessive. So here we have drawn another distinction, this time between by-products and collateral merchandise. Different rules apply because utilities cannot

escape having by-products.

The question now arises whether the revenues obtained from the sale of by-products should be credited to utility operation for the benefit of the rate payers. Going back to the coke example, we can work out the answer without consulting authorities. The rate payers pay for the coal which is charged to the expenses of the utility. The utility has, therefore, no right to put the profits from the sale of its coke residual in its pockets, because the coke is a sort of salvage from the coal which has been bought and paid for by the rate payers.

But while this may be true of coke, tar, and other by-products obtained through the consumptive reduction of a commodity already charged to operating expenses, there is a third distinction to be noted. Suppose that a natural gas company in drilling a well strikes so much oil that it would be wasteful not to dispose of it. Here is something that the customers haven't paid for and in this situation the ruling has been made that the drilling expenses should be shared by the

oil business and the gas business in some equitable proportion. In other words, the utility is allowed to set up two different kinds of business and keep the revenues from the sale of gas and oil separate. Of course where gasoline has been extracted from the gas after it has been taken from the well, the same rule applies as in the coke case because such gasoline is a by-product salvaged from a gas supply already provided for by rates. So much for by-product.

The Right to Merchandise

Turning back to strict merchandising, it is well-settled that all utilities have a right to go into this business and the Commissions are unanimously agreed that they have no jurisdiction over such operations as long as they do not interfere with utility business. Companies must, however, preserve a distinction between the two services, so, therefore, if Mr. Jones falls behind in the time payments on his washing machine the company cannot discontinue service. Likewise a gas company was not allowed to maintain price wheels in prepayment meters where the consumer in order to get gas was required to pay not only for gas consumed but also an excess amount on his merchandising bill.

There has been much recent discussion on whether merchandising operation permits unfair competition by utilities with the local jobbers. Commissions and courts would probably curb this tendency where they can reach it and where they have jurisdiction, but if such practices exist they are necessarily outside the judicial scope of scrutiny. For example, a Maryland electric company had a rule they would not turn on current until all wiring had been inspected and approved by insurance underwriters. This seemed a reasonable regulation, but the company made a further agreement with the underwriters that the current would be turned on immediately to those wiring jobs which the utility had itself performed under a 15-day certificate pending inspection. The Maryland Commission felt that this practice was taking unfair advantage of private jobbers and ordered that it should be discontinued unless the

latter could have the same kind of agreement.

Another alleged form of unfair competition possible through utility merchandising was charged by the head of a large electrical dealers' association in a recent statement. He claimed that the electric companies were using their power of inspection in order to get jobs away from private dealers. Suppose a housewife wants some floor plugs installed, or other supplementary wiring done and suppose the company requires notice and specifications on such improvements. What happens? The association head claims that some utilities upon receiving notice send a man right down to the housewife to try to get the job for the utility wiring department.

It has also been charged that the companies are using utility credit and resources to finance long payment sales of appliances. Large utilities can buy bigger lots of appliances at considerable saving and can afford to extend credit over long periods. The monthly gas or electric bill is an excellent form of billing. It is true the utility may not stop service if the appliance amount is not paid, but the average man either doesn't know or isn't sure about this, and what the monthly sum for his hot water heater is figured in with the total of his gas bill the collection is invariably effected with promptness. It is probably the psychology of the thing. Small private dealers object that they have not the means to compete with such credit extension, and large private dealers object that they do not have such an admirable medium of collection.

These allegations are pointed out without any assertion as to the truth of the facts or the soundness of the arguments, but merely for the purpose of showing some popular objections to merchandising operations by a public utility. It would seem, however, regarding the latter charges that if large utilities with great purchasing powers are able to sell appliances cheaper and on easier terms than small dealers, that the purchasing public would scarcely be impressed by the unfortunate position of a small dealer unable to meet competition of a public utility company in the sale of cheap appliances. The



These pictures illustrate one aspect of merchandising as carried out in Australia. "Ipswich Gas Week" was a great success, and the school girls' cooking competition,



shown above, and the gathering in the auditorium, shown below, were popular affairs. The public of Ipswich was intensely interested in the "Gas Week"

average man of the street would probably be tempted to say, "Well, what of it?"

A more serious difficulty is the matter of the treatment of profits and losses. For many years we have recognized the necessity for regulating the rates of utilities. If a baker stated to charge ten cents for a loaf that was only worth seven cents, somebody else would soon take away his business by making bread for less. The economic law of competition would soon operate to reduce the first baker's rates. But starting up a rival street railway business cannot be effected so nonchalantly as the establishment of a bakery. The capital invested is too great and besides, under the modern policy of regulation, competition is not permitted. Instead we regulate the rates of the company which has the field. The rates are kept at a level that will give the company a fair return on the value of the property devoted to the business and at the same time protect the people from overcharges.

When we turn with this in mind to a

consideration of the utility in the appliance business, two questions immediately arise. First, should the capital invested in the appliance business be included in the "present fair value" upon which the return is figured? Secondly, should the profits from the appliance business be regulated?

Surely there isn't any necessity for restricting the profits of the appliance business. The matter of rate regulation already pointed out was intended strictly for utilities. There is nothing to prevent any number of private dealers from selling washing machines, irons, hair curlers, or other appliances. As a matter of fact a great many private dealers do a very excellent business of this nature. If the utility starts charging too much for anything, everybody will soon patronize the private dealer. There is the old law of competition functioning again. So if a state attempted to restrict the utilities' profit on an appliance without restricting the private dealers' profit, it wouldn't be fair, or, as the

lawyers would say, it would be "class legislation and unconstitutional."

It will be easily seen that the only way for the state to restrict a company's return on its utility business without also restricting the return on the appliance business is to make the utility keep the revenues from the respective operations absolutely separate. Decisions to this effect have been registered in California, Idaho, Illinois, Indiana, Michigan, Nebraska, New Hampshire, North Dakota, Pennsylvania, and West Virginia. This may fairly be said to be the prevailing Commission view.

If this rule is followed out to its logical conclusion, it is clear that where the revenues are kept separate it would be most unfair to the rate payers to include the capital assessment for appliances in the "present fair value of the utility" for use in the computation of their rates. Simple justice would require that the appliance investment should be kept separate also, so that the two questions turn out to be really only two different angles of viewing the same question. It would follow from this too, that no expense on the part of the appliance business could be charged to operating expenses of the utility.

Sometimes, however, the business of selling appliances is too small to make the maintenance of separate accounts worth while. In many cases the utility merely carries merchandise as a sort of favor or service to its patrons because the local rural stores won't or can't handle an adequate variety of appliances. If this is the case, the managers of the utilities are apt to feel like saying, "Why can't we just lump the whole business in with the utility operation? We are willing to include revenues and that is fair enough, isn't it?"

There have been decisions permitting this to be done in Missouri, New York, and Idaho. The Oregon Commission has even announced that in its classification of accounts merchandise and jobbing revenues should be considered as operating revenues. While this is on the surface a departure from the general rule, it could scarcely be called a contrary ruling. It is merely a variation of

practice for the convenience of accounting; Commissions permitting this would probably not allow losses from merchandising to be made up from revenues from the regular service. As a New York Commission explains this practice:

"It is simpler and more usual, rather than to attempt to segregate the commercial business done by a gas company, to consider it as an ordinary and proper by-product of its main business, and to deduct any income therefrom in fixing the rates. This is fair and proper and is the course which will be pursued here. In fact the sale of gas appliances by a gas manufacturing company is not an independent vocation. It is entered into mainly to encourage and stimulate the sale of gas by providing customers with standard and safe appliances of various kinds adapted to consuming the commodity."¹

Federal Decision

Where the merchandising business is making money, the rate payers should be the last to complain, if it is included with the utility business, but where it is a losing business the rate payers might not be inclined to favor carrying it on with utility revenues. But although not permitting a direct charge of losses of this character to operating expense, past losses from the sale of appliances have received some consideration from a Federal District Court as an element of going value. Special Master Burlingame, whose report was later adopted by the court, states his position as follows:

"I am not unmindful that the appliance business may not be subject to regulatory control. Use of gas, however, without appliances, is impossible. The development of such business is necessarily important to a gas company in its gas sales. The cost of obtaining such business is a necessary incident to the conduct of the plaintiff's business. It is a cost that has its reflection in the going value of the plaintiff.

"Of course, a gas company does not have a monopoly of the sale of appliances in its territory as it has of the sale of gas. They may be purchased elsewhere; in or out of the territory. Possibly not all of the appliances would be purchased of the company. There is no evidence before me of what proportion of such appliances were in fact purchased of the plaintiff and what proportion were purchased of others. It may not be of great importance for the question is not the determination of the

(Continued on page 189)

These Are the Agencies of Progress

By ALEXANDER FORWARD

THE strong spots in the gas industry are its stability, its adaptability, its high technical development, its unexcelled credit, and above all, its leadership and its cooperative spirit. Its weak spots are the lack of a greater number of efficient gas-burning industrial appliances, overproduction and overmarketing of most types of domestic appliances, and partially developed salesmanship. The industry's needs come to the surface in our work, and their importance is passed upon by the Executive Board of the A. G. A.

A voluntary organization such as the Association, if its existence and maintenance are justified, must be the industry's agent of progress. It is equally true that a headquarters organization, charged with the duty of collecting the facts, interpreting the needs, and forecasting the trends of an industry, cannot execute the operations of progressive agencies without full cooperation and counsel of the membership. Such cooperation is given to the full by the members of this Association. Our job is to do for the industry what no one company can do so effectively for itself, and to do this we have, to a degree I believe unsurpassed in any field, the "everlasting teamwork of every blooming soul."

We have indeed a wide field for fact-gathering, aside from obvious facts which anyone may know but which not everyone uses for comparative purposes.

The city of Chicago consumes more gas than the combined consumption of Italy, Holland, Switzerland, Norway, Sweden, and Czechoslovakia. Baltimore's output excels Switzerland's, Sweden's, and Norway's to-



© Phila. Eve. Bulletin

The man and woman on the street judge an industry by its agencies of progress

gether. Portland's equals Sweden's. New York sells more gas in an average quarter than all of Italy in a year. The sales of gas, manufactured and natural, in the State of California is in excess of the total for Continental Europe and is nearly 80 per cent that of England and Wales.

Treating as a mere truism the fact that every executive knows no business can make progress unless it has at its disposal a complete stock of detailed information, we can say this basic need is undergoing rapid development in the statistical bureau at Headquarters.

The gas industry the country over more than kept pace in 1928 with general business. It was a year not marked by material advance in industry and commerce. Manufacturing increased but $2\frac{1}{2}$ per cent over 1927 even allowing the heavy percentage advance in automobiles and the resulting movement in steel, due to Ford's 1927 slump under 1926 and resumption in 1928. Manufactured gas gained $3\frac{1}{2}$ per cent, or more than its share. Natural gas production registered an advance of 10 per cent, but figures are not yet available as to how much of this applied to the public service, which in 1927 was about 22 per cent of the total production.

We can show the facts, and the financial houses now constantly present in their publications the favorable position of the gas industry in the financial field.

(At this point Major Forward referred briefly to charts and statistical data prepared by the A. G. A. Statistical Department. These charts and data appear on pages 131-135 of this issue of the MONTHLY.—EDITOR.)

The success of any business must be

judged ultimately by effective utilization of invested capital. The factors illustrated are of great import for gas utilities for there is scarcely any type of business which approaches ours in the volume of capital required for the business done and the turnover realized. It takes \$5 investment in the gas business to earn \$1 gross and 19 cents net. So any development which tends to more effective utilization of capitalization necessarily results in greater security and wider service.

Without question, the outstanding development in American Gas Association activity the past two years has been in the direction of research for the ascertainment of facts. This is not only as it should be but as it must be. From all quarters within the industry has come this insistent demand. It has been well said that research in our day is no longer a luxury—it is a necessity of civilization. It is significant that those industries which are spending the largest amounts of money and brains in research are the most successful, while those which are standing still or going backward are those which are paying the least attention to the problems of their service to the public of the future.

The pamphlet* here should be supplemented by additional undertakings subsequently authorized by the Executive Board and now under way. These include research in pipe coverings and the prevention of corrosion, in pipe joints and in house cooling. The possibilities in these lines are self-evident.

Our program of research in industrial gas utilization, financed by a group of our member gas companies, is outlined in the pamphlet.

Through our cooperative work with the American Institute of Baking we have developed a gas-fired oven which has solved the problem of establishing the superiority of gas in the large scale baking field, and we are assured that gas will be the baking fuel of the future. Competitive statements reflecting unfavorably on the use of gas for this purpose have been definitely disproved. The

largest baking concerns in the country are sold on gas and are now regularly equipping their new plants with the improved types of gas ovens developed through our research.

An entirely new method of melting brass and other non-ferrous metals has been developed in the shape of a retort melter. The chief difficulty in the past in holding this load for gas has been excessive shrinkage and metal loss. By the successful use of retorts for this purpose we seem to have overcome this difficulty and initial installations are proving entirely satisfactory in commercial usage.

These are only samples. We are on the verge, we feel, of further discoveries and development of new processes for applying gas to bright annealing brass and other metals, and entirely new methods of heating high temperature forging furnaces.

One cannot drop a dollar in the research slot and have five or a hundred or a thousand dollars returned. But when we can show such tangible results as these, nothing is more certain than that the gas industry's investment in research today is but a fraction of what it will so invest five or ten years hence.

Service and Safety

As of January 1, 1929, the Testing Laboratory in Cleveland, established and operated by the American Gas Association for the purpose of promoting better and safer domestic gas appliances, had approved by test and inspection 9,918 gas ranges, 920 space heaters, 316 water heaters, 575 central house heating appliances, and is preparing requirements for testing hot plates and laundry stoves. It is now difficult to sell any domestic gas burning appliance which does not bear the Laboratory seal of approval. The Laboratory has established for itself the highest standing for impartiality and efficient operation and we feel, we trust with due modesty, that the Association deserves the judgment pronounced from important sources that this institution, adequately housed and equipped by the industry, and enjoying the full coop-

(Continued on page 176)

* "Research Activities of A. G. A.," published June, 1928.

The A. G. A. Laboratory Approval Seal

SUGGESTED LECTURE ON ITS MEANING FOR ANY INTERESTED GROUP

ALMOST every article for sale today, ranging from the needle to the giant steel girder, and from the baby carriage to the zeppelin, bears some easily distinguishable mark of identity for the guidance of the purchasing public and the protection of the manufacturer.

The mark may be just that and no more, or it may be the symbol of one individual's or a whole corporation's integrity and good faith. In the trade marts of the world, some symbols of identification have guided the buying habits of millions of persons, sometimes generation after generation.

The gas industry has been introduced to a new mark of identification. It is visible today on ranges, space heaters, water heaters, boilers and other appliances. You can see it on appliances displayed in thousands of salesrooms, in every part of the country, and in many places in Canada. Indeed, 30 per cent of the gas boilers, 30 per cent of the gas-fired furnaces, 50 per cent of the water heaters, 60 per cent of the space heaters and 75 per cent of all gas ranges sold during the year 1928 bore this mark of identification where it could be readily seen by everyone.

Until recently the gas industry and the public it serves have heard this mark of identification described as the Blue Star Seal. It has been so described for a period of about three years. Beginning with 1929, however, the Blue Star Seal will pass out of the picture so far as laboratory approval is concerned, and will be confined solely to the completely gas-equipped home. The reason for this change, together with all collateral considerations involved, constitutes the basis of this talk.

First, let us go back a bit and discover how the seal first came to be placed on an



This is the new A. G. A. Laboratory Approval Seal.

appliance. This naturally leads us to the establishment of the American Gas Association Testing Laboratory at Cleveland, today the largest and most completely equipped institution of its kind in the world.

The primary purpose of the laboratory is the testing and certification of appliances in conformance with certain requirements. If an appliance is found to conform to these requirements, it is entitled to bear the Laboratory's stamp of approval.

What then, are these requirements, who is responsible for them and what is their significance?

There are American Gas Association requirements for most types of domestic gas appliances. These requirements are prepared by experts to insure, first of all, satisfactory and safe performance of the appliance when in actual use. The committees which draw up the requirements represent the U. S. Bureau of Standards, U. S. Bureau of Mines, U. S. Public Health Service, National Association of Heating and Piping Contractors, Master Plumbers' Association, the Canadian Gas Association and gas company and manufacturer company members of the American Gas Association. These committees represent, in fact, every interested national element, including important trade associations.

In any consideration of requirements, it is highly important to remember that the Laboratory's testing requirements must be in the nature of minimum requirements, except as regards safety, in which case the maximum safety is demanded. While the present requirements insure reasonable durability and fairly high efficiency, they are being elevated from time to time as the art of appliance manufacturing progresses.

When used in the actual testing of appliances, the requirements impose from 56 to 164 separate tests on each appliance, depending on the type. These tests may be divided into two general classifications, construction and performance. While most of the construction tests have at least an indirect bearing on safety, in many instances they also set the minimum weights of material permissible, and, by virtue of this fact, insure reasonable durability.

So far as the customer is concerned, the performance tests insure, provided the appliance is properly installed, and intelligently used, the following things: a satisfactory operating efficiency, safety from the leakage of raw gas, explosion, fire hazard, incomplete combustion and many other essential safety items. The requirements, therefore, assure safety first of all, and secondly, a reasonable degree of durability inseparable from safety, thirdly, a reasonable operating efficiency.

In view of the description just made of the requirements, it would seem a very simple matter indeed to make clear to the public what Laboratory approval and the Laboratory seal on an appliance mean. For instance, the seal as the visible evidence of the approval would necessarily mean that the appliance bearing it was manufactured in compliance with basic national requirements for safety. That, in fact, is just what the seal means; that is the interpretation which should have been made. But it so happens that in some instances another interpretation, far removed from any safety consideration, was given the seal. And right here is where the mistake was made.

In utilizing ways and means of making the Laboratory effective in full measure for the gas industry, the approval seal was made to take on a meaning it never had. In brief, it was advertised and otherwise exploited as a mark of highest quality. The impression made by this commercial exploitation throughout the industry was that one approved appliance was as good as another. In other words, Laboratory approval meant a guarantee of highest quality.

Needless to say, quality is an elastic term.

But the most elastic meaning of it, as commercially used, never was intended to be implied by Laboratory approval of gas appliances, because the Laboratory's requirements as represented by the seal of approval cover only basic requirements. Above and beyond these requirements, the manufacturer has all conceivable latitude for his manufacturing skill and merchandising ingenuity in establishing and elevating the quality of his product. Also, he has all conceivable latitude for convincing buyers that his range, for example, is of better design for convenience and service, will last longer, and will cook better and faster, as well as look better, than that of his competitor, which may also be approved.

From what has been stated already, it should be evident that the minimum approval requirements and Laboratory approval have nothing whatsoever to do with these elements of added superior quality, except to set a minimum standard below which they cannot go and still merit the approval seal. Putting these elements into appliances, and convincing prospective buyers of their existence, are distinctly manufacturing and merchandising problems which each manufacturer and merchandiser must solve for himself.

That is the picture as the gas industry should see it today. It is the picture that should be presented to the public, and in order to present it correctly and at the same time be assured that there never will be a repetition of misinterpretation of the seal, all branches of the industry have agreed to abide by the following recommendations, approved by the Executive Board of the American Gas Association.

The first relates to the name to be given the seal of approval which now appears on thousands of appliances. It reads as follows:

"The symbol or insignia on a gas appliance indicating that it has been tested and approved by the testing laboratory shall hereafter be referred to as the Laboratory Approval Seal and not as the Blue Star Seal."

The second recommendation relates specifically to the seal itself. From now on it is agreed that in connection with the appear-

ance of the seal on any gas appliance, there shall be used along with it a legend reading substantially as follows:

"This Laboratory Approval Seal is a guarantee of compliance with basic national requirements for safety—American Gas Association, Inc."

The seal, as officially approved in accordance with the above recommendations, is reproduced here.

To act as a further safeguard against the improper interpretation of the seal, we have this third important recommendation, to wit:

That the manufacturers, in presenting their appliances for test by the Laboratory, shall hereafter, by way of making these recommendations effective, be required to agree that in their sales work and exploitation of their appliances they shall comply with the findings that have been made as to the use of the legend or the interpretation of the legend and shall not exploit the seal as a commercial mark of quality, but only as guaranteeing compliance with national basic requirements for safety.

It has been further recommended that the manufacturers of gas appliances constitute themselves a vigilance committee, so to speak, and check up on how the interpretation and use of the Laboratory Approval Seal is carried on by manufacturers, by dealers and by gas companies, so that if infractions of the general policy agreed upon are reported, Headquarters of the American Gas Association be advised and action taken to remedy the same.

The entire gas industry has been notified of these recommendations. From the standpoint of efficient public service, and to safeguard the reputation of the industry itself, it is highly important that every employee who comes in contact with the public, and especially those who serve as appliance salesmen, should be fully acquainted with these recommendations.

The Laboratory is no longer an experiment; it is an established institution of inestimable value to the gas industry in that it is developing and establishing basic standards of gas appliance performance, the effect of which must inevitably be of benefit to the

public and the entire gas industry, including appliance manufacturers of conscientious and progressive intent.

It goes without saying that the work of the Laboratory cannot be made fully effective unless the appliances that pass its test bear some easily distinguishable mark signifying Laboratory approval. Once adopted and established, such a mark belongs to the entire gas industry. To the gas-using public it becomes the industry's assurance of good faith.

Everyone, therefore, should accept this mark of Laboratory approval for exactly what it is, primarily—a guarantee of compliance with basic national requirements for safety—and should interpret its significance accordingly, until the appliance-buying public understands the exact significance of it.

On the other hand, every man and woman employed by the gas industry should keep in mind the all-important fact that a gas appliance that cannot pass the Laboratory tests, and therefore does not bear the Laboratory Approval Seal, is not fit to be used, and all practicable means should be employed to prevent the sale of it.

Manufacturers Directory

THE Spring issue of the Manufacturers Directory will be published and distributed with the April issue of the A. G. A. Monthly.

Manufacturer company members of the American Gas Association are urged to advise Headquarters of changes, additions, etc., on or before March 10.

RATE LIST NO. 7

RATE LIST NO. 7 will be available after March 10, and copies can be secured from the American Gas Association, 420 Lexington Ave., New York, N. Y.

The Rate List of the A. G. A. is the only complete and authoritative rate list in the industry. Natural and manufactured gas company rates are included, and special efforts are made to make the compilation inclusive and comprehensive.

The compilers of the information present this year, in Rate List No. 7, data on rates in every city in the United States, the U. S. Possessions, Canada, Newfoundland, and Cuba.

The price of Rate List No. 7 is \$1.50.

120 Executives Attend Coast Conference

ABOUT 120 executive leaders of the gas industry met at the Hotel Biltmore, Los Angeles, Calif., on Feb. 6-7, for the Pacific Coast executive conference of the American Gas Association. The Pacific Coast Gas Association was host.

It was the consensus of opinion of those present that such conferences are of benefit to the entire industry, as the striking similarity of the problems faced in the Eastern, Southern, and Western sections of the country is demonstrated in an effective manner. President Fogg brought this out forcefully when he stated that "the barriers of distance are rapidly being levelled, and we, as an industry, realize that differences in methods and practices, logical enough in the past, are melting away before the influence of new forces that are shaping the life and thought of the entire nation—there is but one gas industry."

The conference opened on Feb. 6 with a warm address of welcome by C. H. Dickey, president of the Pacific Coast Gas Ass'n. F. S. Wade, of Los Angeles, chairman of the committee on arrangements and program, then greeted the conference and extended the welcome of the city.

In response President Fogg thanked the Pacific Coast people for the reception that had been given.

"A Nation-wide Survey—Present Conditions and Future Possibilities," was the first formal presentation. Six leaders of the gas industry reported on their respective territories. The following skeleton outline gives some of the points emphasized:

E. L. Hall, Portland, Ore., covering the Pacific Northwest: Spoke of wood, coal, and oil competition, as well as electric; gas industry in Northwest is having extremely keen competition from many sources and is meeting it aggressively.



O. H. Fogg



B. J. Mullaney

W. A. Sauer, Chicago, Ill., reporting on the Middle West: Gave statistics showing large growth in gas sales during 1928; Missouri, Minnesota, Wisconsin, Illinois, Indiana, Iowa, and Michigan as a group increased manufactured gas sales in 1928 by 8.1 per cent; domestic sales in this area increased 5.2 per cent; industrial and commercial sales increased

13.2 per cent; the most striking increases were in house heating, Indiana with 242.7 per cent, Michigan with 105.2 per cent, Wisconsin with 87.8 per cent, Illinois with 35.5 per cent, and Missouri with 29.4 per cent.

A. F. Hockenbeamer, San Francisco, Calif., reporting on Pacific Southwest: Mentioned briefly the growth of the industry, and traced certain trends of interest.

Henry C. Morris, Dallas, Texas, reporting on South: Told of the change from manufactured to natural gas in certain sections, and gave details of the great growth of the natural gas industry.

Floyd W. Parsons, New York, N. Y., reporting on Atlantic Seaboard: Outlined progress of 1928, and gave interesting facts of industrial trends and developments.

F. C. Freeman, Providence, R. I., reporting on New England: Reviewed industrial situation in general and explained how this affects the gas industry; told of recent progress.

Clyde H. Potter, Southern Counties Gas Co., Los Angeles, Calif., then presented a paper entitled "Are Sales Conditions Different?" Mr. Potter's paper is printed in this issue of the MONTHLY.

Following active discussion the delegates adjourned for lunch, with the A. G. A. as host.

The afternoon session opened with an address, "Agencies of Progress," by Alexander Forward, managing director, American Gas Association. This paper is printed in this issue.

E. H. Bauer, Worcester Gas Light Co., Worcester, Mass., described the New England Plan of Cooperative Regional Advertising, basing his points on the experiences



The delegates arriving at San Bernardino are officially greeted

gained with one year's operation of the plan. Mr. Bauer also told of the 1929 program.

Active discussion following this paper indicated that gas men in every section of the country are interested in the regional plan of cooperative advertising.

F. U. Naylor, Pacific Gas and Electric Co., San Francisco, Calif., then presented a paper on dealer cooperative relations on the Pacific Coast. This was a summary of relations from the gas company viewpoint, and was followed with great interest by all the delegates.

"Public Utility Financing on the Pacific Coast," was the title of the next address. It was given by C. O. G. Miller, Pacific Lighting Co., San Francisco, Calif. Mr. Miller traced financing developments since the inception of utility service, and gave many interesting sidelights. This paper will be printed in an early issue of the MONTHLY.

H. E. Bates, of Chicago, Ill., presented former President Harry C. Abell's paper on the "Research Program of the Gas Industry." Mr. Abell told of the research activities that the industry now has under way and explained what each activity is designed to do. All of the projects discussed by Mr. Abell

have been described in past issues of the MONTHLY and in the April issue there will be printed an abstract of his paper.

A meeting of the Executive Board of the A. G. A. was held immediately after the adjournment of this session.

LeRoy M. Edwards, Southern Counties Gas Co., Los Angeles, Calif., opened the Thursday morning session with an address on the influence and importance of the Pacific Coast.

This was followed by a paper entitled "Conservation of Natural Gas," by A. F. Bridge, of the Southern Counties Gas Co. This was a technical consideration of activities as carried out in the State of California. It will be printed in an early issue of the MONTHLY.

The subject of "Utilization of Refinery Gas" was covered by W. S. Yard, Pacific Gas and Electric Co., San Francisco, Calif. This was also a technical paper, and it elicited a great deal of interest.

Samuel W. Meals, Carnegie Natural Gas Co., Pittsburgh, Pa., delivered a particularly interesting paper on "Storing and Measuring Large Volumes of Natural Gas."

This paper is printed in this issue of the MONTHLY.

C. J. Ramsburg, The Koppers Co., Pittsburgh, Pa., was the author of the paper on



C. H. Dickey



F. S. Wade



E. L. Hall

RESOLUTIONS PASSED AT PACIFIC COAST CONFERENCE

RESOLVED, that the Conference considers the vital problems of the gas industry, here developed and discussed in an able and comprehensive manner by our speakers and those who have participated in the discussions, should have the earnest attention of the industry's national organization, and accordingly recommends to the Executive Board that these subjects, including retention and development of the domestic load, conservation and storage of natural gas, advertising, sales outlets, utilization of new products, should be further intensively considered, either at the next Conference in Atlantic City, May 31-June 1 next, or in such other manner as the Board shall deem best.

RESOLVED, further, That the research and merchandising programs of the American Gas Association have the hearty approval of this Conference.

RESOLVED that the Conference of the Advisory Council and Executive Board of the American Gas Association hereby records its thanks and appreciation to all those who have given so liberally of their time and thought and generous hospitality to make this Conference a success, and especially grateful to the Chairman, F. S. Wade, and other members of the General Committee on Arrangements and Program; to the distinguished President, Charles H. Dickey, and the efficient secretary, Clifford Johnstone, of the Pacific Coast Gas Association; to the Chairman, Norman McKee, and his associates on the local Arrangements and Entertainment Committee; to Western Gas and the other trade press; to A. B. Macbeth, A. B. Day, S. F. Hockenbeamer, C. O. G. Miller, W. F. Raber and other executive heads of the Pacific Coast companies; to Mrs. Wade, Mrs. McKee and the other members of the Ladies Reception Committee, and to all others including those contributors to the program, who have helped make this Conference not only a success, but an event, especially to the men and women from the East and the Middle-West.

"Manufactured Gas Technical Developments." Donald MacArthur, of Jersey City, read the paper. In this Mr. Ramsburg took up sulphur removal, liquid purification, dehydration, naphthalene removal, back run method, automatic operation of water gas generators, disposal of phenolic waste, etc.

E. L. Hall, Portland, Ore., and H. L. Masser, Los Angeles, Calif., took part in the

discussion of this paper and brought out interesting Pacific Coast facts.

Charles A. Munroe, of Chicago, Ill., and R. G. Griswold, New York, N. Y., then presented their respective ideas regarding propane and butane competition.

B. J. Mullaney, vice-president of The Peoples Gas Light and Coke Co., Chicago, Ill., and vice-president of the American Gas Association, gave the closing remarks. He explained the value of such conferences to a united industry.

OUR NEW MEMBERS

Holding Company

New England Power Association, W. C. Bell, V.-P., 89 Broad St., Boston, Mass.

Gas Companies

Georgia Public Utilities Co., Griffin Div., J. H. Smith, Mgr., Griffin, Georgia.

Greencastle Gas & Electric Light Co., S. E. Mulholland, V.-P., 112 E. Wayne St., Ft. Wayne, Ind.

Kokomo Gas & Fuel Co., S. E. Mulholland, Pres., 112 E. Wayne St., Fort Wayne, Ind.

Lawrenceburg Gas Co., G. A. McAdams, Local Mgr., Lawrenceburg, Ind.

Louisiana Power & Light Co., McGregor Smith, Gen'l Mgr., New Orleans, La.

North Attleboro Gas Light Co., J. Le Roy Underhill, Mgr., 65 N. Washington St., North Attleboro, Mass.

Princeton Utilities Co., J. W. Joplin, Mgr., Princeton, Ind.

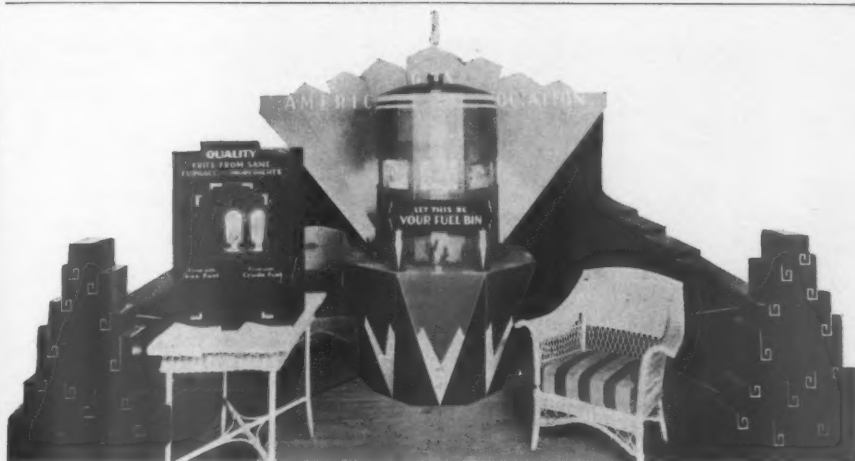
Public Utilities Corp. of Arkansas, R. W. Curran, Supt., P. O. Box 1734, Shreveport, La.

Ware Gas Company, A. D. Eccles, Supt., Ware, Mass.

TO THOSE INTERESTED IN THE STEEL TREATING EXHIBIT

THE announcement that the annual convention and exhibition of the American Society for Steel Treating will be held at Cleveland, Ohio, Sept. 9-13, is of particular interest to the gas industry.

The American Gas Association has already reserved 7200 sq.ft. of space in a good position in the exhibition hall, and manufacturer company members of the A. G. A. who supply industrial gas-burning equipment to the steel and allied industries and who desire to exhibit are requested to communicate with the Industrial Gas Section's Committee on Display and Contact with National Industrial Organizations, A. M. Apmann, chairman. Manufacturers are requested to state what is desired in size and space.



The gas exhibit at the Chicago Ceramic show

Gas Plays Part in Ceramic Week

By A. B. GREENLEAF

P LATES priced at \$12,000 a dozen and plates tagged 10 cents apiece stood side by side at the Ceramic Show held in Chicago from February 4 to 9, at which time a new keynote in the history of the ceramic industry in this country was sounded. This ceramic exposition topped off the activities of the American Ceramic Society and a number of other important organizations who held conventions simultaneously.

Unquestionably this concurrent gathering of ceramic societies will make 1929 a historical year for the clay working crafts. Nothing was left undone to bring the greatest possible success to the affair and the attention which was directed to American Ceramics Week in Chicago from all parts of the country speaks well for the efforts of the committee in charge of the event.

The spirit of the convention pervaded the entire city. Ten or fifteen thousand people attended the show each day. Chicago banks and department stores had interesting window displays of ceramic products. Outstanding among these was the exhibit of the Northwestern Terra Cotta Co. placed in one of the most prominent windows of the Peoples Gas Stores on Michigan Ave.

Mr. Greenleaf is with The Peoples Gas Light and Coke Co., Chicago, Ill.

It is expected that the development of an American Ceramic Week will become a national annual event for the industry as a whole. It will serve to bring the recognition that the clay working field in its high rank among American industries deserves, and will open up the roads of progress and growth in all branches of ceramic enterprise.

Ten organizations, all identified with the respective branches of the industry, held meetings in Chicago at the time mentioned, and eight of these purposely scheduled their annual conventions to meet simultaneously. Thus a mental picture can readily be drawn of the large attendance of men connected with the clay working field from all parts of the country, including plant executives and other officials, managers, superintendents, ceramic engineers, ceramists and technical men, students, and others interested in the ceramic industry.

The different organizations participating in the event were:

- American Ceramic Society.
- American Face Brick Association.
- American Refractories Institute.
- Common Brick Manufacturers Association.
- Canadian National Clay Products Association.
- Electrical Porcelain Manufacturers Association.



Window display in Peoples Gas Bldg.

Hollow Building Tile Association.
Electric Clay Products Association.
National Brick Manufacturers Association.
United States Potters Association.

Delegates from the Glass Container Association and the Sheet Metal Association also were present.

The exposition headquarters were at the Hotel Stevens on Michigan Boulevard, the largest hotel in the world. The exposition was carried out in a portion of a large exhibition hall in this massive structure. The display was thrown open to the public and extensive publicity was arranged in this channel to interest the masses in the exceptional event. The exposition committee estimates that upward of 50,000 visitors, among whom were many prospective customers, viewed the display.

Among the noteworthy exhibits was that of the American Gas Association which featured a model of the world's largest gas holder. The original of this model has a capacity of 20,000,000 cu.ft. and is the first industrial structure in the country to be marked and lighted as an aid to aviation according to specifications officially approved by the local and federal aviation authorities.

R. A. Hastings, of the Public Service Co. of Northern Illinois, and H. F. Rehfeldt and P. H. Dreyer, of The Peoples Gas Light and Coke Co., were in attendance at the American

Gas Association's booth, equipped to answer any and all questions relative to the use of gas in the ceramic business.

Other exhibits included displays of art, pottery, stoneware, tile, dinner ware, and furniture ware in the pottery division. The glass division showed a large variety of table glassware, art and novelty glassware, lighting fixtures, glass containers, and other forms of glass produced in this country. The enamel ware division exhibited stoves, refrigerators, and all kinds of kitchen or bathroom-ware employing enamel finishes. In addition to these exhibits there were the heavy clay products including terra cotta, brick, tile and so on, as well as equipment and machinery which has been developed in this country to produce ceramic ware.

Tuesday, Wednesday and Thursday (February 5, 6, and 7) were devoted to divisional meetings of the American Ceramic Society, including concurrent and joint sessions with other associations. Seven sessions involving the various divisions of the ceramic industry were held simultaneously.

Among the many interesting papers presented in the refractories division was that of E. L. Gates, an industrial engineer for The Peoples Gas Light and Coke Company. Mr. Gate's paper was entitled "Public Utility Fuel Service" and had to do with the use of manufactured and natural gas in the ceramic industry.

In writing of the basic economies underlying the opportunity of the utilities supplying heat to the ceramic industry, Mr. Gates stated:

"The benefits derived from the collection of such large quantities of solid and crude fuel under one controlling agency are not difficult to visualize. Instead of the necessity of shipping coal in small quantities to a thousand different ceramists, it is shipped direct from the mine to the utility, where it is carbonized. The crude fuel is taken by the utility with the aid of modern gas-making equipment and valuable by-product.

(Continued on page 190)

Are Sales Conditions Different?

By CLYDE H. POTTER

WE shall limit our discussion to the subject of merchandising and the sale of gas appliances rather than the sale of gas. In a territory as broad as the United States, with climatic conditions varying from semi-tropical in Southern California to sub-zero temperatures in the Eastern states, it would be only natural to assume that sales conditions and sales problems would be somewhat different in California as compared with Washington, D. C., or New York.

It is interesting to note that the types of fuel vary considerably over the country. For example, in and around Ontario, Canada, as well as in the states of Oregon and Washington, there is found an abundance of hydro-electric current at extremely low rates. In certain parts of the East cheap coal is a serious competitor of the gas man. In the Pacific Northwest a by-product of the lumber mills known as Hog-Fuel-sawdust is available as a domestic fuel at an extremely low price. In certain parts of the country, wood and other hard fuels are offered at prices which frequently are difficult for the gas man to meet.

In California and generally along the Pacific Coast, oil fuel is an active competitor. In certain parts of Southern California cheap electricity is beginning to make inroads in our domestic business and equally serious inroads in our bakery, restaurants, and light commercial field.

While climatic conditions may vary as to states and while competitive fuels may differ in almost as many sections of the country, I am firmly of the belief that fundamentally and basically the sales and merchandising problems of the gas man are pretty much alike.

This brings us to another phase of our subject. I wonder if we are aware of the new, increasing competition which is facing us? I am speaking not of the competition

of other fuels but of the keen rivalry for the dollar which rages in every walk of life in every city and community in both America and Canada. Much has been said about this struggle for the elusive dollar, but a great deal more will have to be said and definite action taken before the gas industry can afford to rest on its oars. It appears from all indications that this same competition will increase rather than decrease as time goes on.

What is this competition about which we hear so much? It is the demand on the part of rival interests and industries for a greater share of the public's dollar. This demand calls for more and more radio sets, automobiles, mechanical refrigerators, washing machines, and household appliances, better furnishings for the home. It comes from the delicatessen shop, hastily prepared meals in which pre-cooked, canned foods are substituted for the wholesome dishes formerly prepared on the gas range.

Other Industries Affected

Nor is ours the only industry suffering from these constantly changing economic conditions. The meat and packing industry, the flour business, the ice interests, all are on the defensive. The Sunday roast has given way to the Sunday "away from home dinner," while the increased number of restaurants and cafes is evidence of the fact that we are eating more and more meals away from home.

Our large Pacific Coast milling and flour company reports that its sales of 50 lb. sacks of flour have fallen off appreciably during the past few years. The amount of flour used in the American kitchen has decreased seriously—the 10 lb. sack is today being used where formerly the 50 lb. sack was purchased. Furthermore, with the growth of the apartment house movement there has appeared the 2 lb. sack, showing the trend to use less flour and of course *less gas*.

Similarly the meat packer complains about the diminishing sizes of roasts in the home.

Mr. Potter is commercial and advertising agent of The Southern Counties Gas Co., Los Angeles, Calif. Presented at Pacific Coast Conference of A. G. A., Los Angeles, Calif.

He states that chops, small steaks—those meats which can be fried or broiled quickly—are fast replacing the larger roasts and boiling pieces.

Witness the most recent phase of the keen strife for the public's dollar when cigarette advertising copy attacks an industry as follows: "Reach for a Lucky instead of a sweet."

Just where will the gas industry with its \$4,500,000,000 investment stand in this economic picture five and ten years hence if the present offensive against our domestic load continues and gathers momentum? How long will we withstand the present inroads being made against our restaurant and bakery load without affecting our consumption curve and perhaps seriously hampering our program of future expansion? Realizing that the law of the military world adapts itself admirably in the business world and hence in the gas industry, that is, to stand still is to lose ground, is it not time to take the offensive and carry the battle of new business to the ranks of competition?

What are the various parts of the country doing in the matter of meeting this competition, and are all sections of the nations preparing as they should to keep ahead in the fast-changing conditions of today? What of New England, of the South, of the Middle West, of the Pacific Coast? Are we gaining ground in Portland, Ore., only to lose it in Cleveland? Or are we heading off competition in New York, yet merely holding our load in Detroit?

A Nationwide Trip

It was my privilege last spring to obtain a close-up picture of many sections of the country and certain parts of Canada, to contact more than 150 gas company executives, sales managers, and new business departments in more than 30 cities from San Francisco to Boston. At the same time I visited a number of large gas appliance manufacturing plants throughout the East.

Naturally I was impressed by this picture which was almost as varied as the types of weather I encountered. Aggressive merchandising policies in certain cities with the gas load showing increases or holding its own

and non-merchandising policies in other centers with the gas load not increasing. At the same time in almost every instance I found the electric departments of combination companies very actively engaged in merchandising load-building appliances and frequently the gas department only passively interested or possibly not at all. Generally speaking, the curve of the electric load was upward and in some instances the curve of the gas load was not always so skyward.

It is my conclusion that the gas companies of the eastern and northeast sections of the country were more actively and more aggressively committed to the policy of merchandising than are many of the far-western utilities.

The reason for this condition is no doubt due to the fact that the Eastern utilities are distributing artificial gas in competition with cheap coal and other hard fuels. Also there are the zero weather conditions of winter which require continuous heating 24 hours per day for several months of the year. Because of the enormous demand for artificial heat during the long winter season the differential in costs per B.t.u. between gas and coal has been such that it has required genuine salesmanship to sell the gas idea in the East. This condition has existed since the birth of the gas industry.

However, in the Pacific Coast area we are favored climatically to the extent that the heating requirements are for a brief period daily as contrasted to a 24 hour demand found in the East. With coal selling at approximately \$18 per ton and wood at approximately \$20 per cord, except in the Northwest, the gas man in the Pacific Coast territory has encountered comparatively little competition.

Especially is this true in Southern California where for years there has been an abundance of natural gas. Because of this lack of competition from other fuels, gas has for years been the accepted medium of heating in California. It has been the problem of the utility here to meet the growing demand for gas service rather than one of creating such a demand as in the East. Hence

EASY COOKING

COOKING has been made easy by the modern gas range. These ranges are automatic and quick in their operation and produce dependable results.



With each TAPPAN-IN-SO-TOP or ESTATE gas range we will give, without charge, a clock for your kitchen which tells when the cooking is completed.

Liberal allowance for your old range

These ranges are approved by the American Gas Association Testing Laboratory

Visit our nearest office



Southern California Gas Company

950 South Broadway
LOS ANGELES

Especially fine handling of the "phantom" idea in this advertisement attracts the eye and helps sell gas cooking, according to F. Harvey Holden, advertising manager of the Southern California Gas Co.

many of the utilities of the Pacific Coast area did not feel the need of appliance merchandising. As a result of this condition thousands of inefficient, unsatisfactory, and unsafe appliances have found a ready market here and we are now discovering that this is tending to jeopardize the future favorable acceptance of gas as the supreme domestic fuel. Obviously there is only one way to correct this evil, that is by replacing these thousands of inefficient and unsatisfactory appliances with laboratory approved equipment. Who is more vitally interested in and better able to do this job than the well-established, well-organized new business department of the gas utility?

In general most of the leading Eastern companies are utilizing every available method of strengthening the threatened gas load. This was being done largely through their own efforts, for apparently they had decided that to leave this important part of their business to an outside, disinterested agency had not worked out to their satisfaction.

There seemed to be a tremendous effort exerted by the new business departments to obtain the gas heating load even in those states where a heating load is something to be conjured with. Gas-fired central heating campaigns by the gas utilities, supported by well-written advertising, were not uncommon

even in cities where coal had long been recognized as the universal fuel. The oil man likewise was considerably in evidence in the house heating field with the result that the utility was waging a three-cornered fight.

Domestic gas incineration was beginning to arrive and it is to be hoped that the past year's experience will prove to the new business department that gas incineration should be well supported. Gas incinerators were on display in Chicago, Detroit, Ontario, Boston, New York, and other cities. These displays, together with local and national advertising, will, no doubt, aid in making the gas-fired incinerator a part of every complete all-gas home.

Refrigerators Are Being Sold

The brightest spot in the entire merchandising picture, however, was the gas refrigerator. Well-organized campaigns in the Eastern cities and centers of population, New York, Washington, and St. Louis, have laid a splendid foundation which I am informed has resulted in selling hundreds and in one instance thousands of these domestic gas refrigerators. Not a few of the leading apartment houses as well as the newer ultra-modern apartment house hotels were being equipped with this load-building appliance.

Incidentally, the gas refrigerator with its 1500 cu.ft. per month is making profitable consumers out of minimum consumers. It is doing more than that. It is giving to our industry a modernizing influence which we have lacked. It is making people look with renewed interest to the gas industry as a sound field for investment.

Gas water heating was receiving substantial support from practically all Eastern merchandising utilities. The trend was to discontinue the use of the tank and side-arm models in favor of the storage type. One Michigan gas company during 1927 sold 3796 automatic storage water heaters in a territory serving 128,000 residential consumers: one heater to every 33 consumers. This company actually doubled the load of 3796 customers through the sale of that number of water heaters, a splendid achievement in the face of threatened load losses due to

changing methods of living on the part of the public.

I note that according to W. A. Saver, Michigan led the Mid-Eastern states in the increase of gas last year.

I found no better water heater sales accomplishment anywhere, although one Pennsylvania company and one in New Jersey were campaigning actively.

Considerable effort was being put forth in Chicago and in several other merchandising centers by the gas companies to push the almost forgotten small domestic appliances such as gas toasters, corn poppers, waffle irons, and ironers. While many gas utilities seem content to let the load created by the toaster, the waffle iron, and the gas ironer follow the path of the vanished light load, there seemed to be a move on the part of several utilities to sell everything that would burn gas. Laundry dryers and garage heaters were made a part of the merchandising program to hold or increase the consumption of the average customer.

Gas ranges and space heaters were displayed wherever the company was making any effort to sell appliances. Color in the kitchen gave the salesmen a new avenue of approach. While most companies displayed and made an effort to sell full or semi-enamel ranges with the oven control, the automatic lighter and other labor-saving devices, I found a general tendency to sell on the price appeal. This was particularly so in the larger centers of population where the apartment house dweller is on the increase. Price, price, the fatal price appeal was everywhere in evidence, on the display floors, in advertising copy, and on the air. It is to this price appeal that we may attribute no small percentage of the present unfavorable attitude existing toward gas.

I said a few moments ago that the gas companies of the East are more actively engaged in direct selling to their consumers than are the gas utilities of the West. With a few exceptions, I believe this to be true.

On the other hand, from the standpoint of all engineering phases of our business, the West has equalled the progress of our East-

ern brothers. In the extension of natural gas lines over great distances, in horsepower load, in engineering progress, the gas utilities of the West have gone far, but in the sale of merchandise we are behind the East for this reason.

This is a new country and the major efforts of the industry have been absorbed in developing our properties and extending our mains to take care of the new consumers. Business has come to us naturally, as it will in any new territory. The gas man has accordingly been prone to let business come to him while he planned further extensions for more consumers. Little thought was therefore given to the development of the old consumer. We have worked upon the theory that the present consumer was well-equipped to use our product, that his load was satisfactory, and that we would continue to serve him indefinitely.

Picture of the Competition

In the face of changing conditions such as the growth of the restaurant, hotel, and delicatessen business, increased use of baker's products, decreased use of flour, roasts, and cooked foods in the home, how long are we going to hold the present load of the average consumer? Arrayed before us on every hand we read, "Send it to the laundry," "Do it electrically," "Eat a Pre-Cooked Breakfast," and "Do it the Oil-O-Matic Way." All are well-organized, ably financed efforts to take part of our consumer's dollar and our load.

One hundred thousand electric ranges in Southern California during the next five years is the selling slogan for 1929, and we may be assured that if that astonishing number of appliances are sold here, by 1934 the gas load must suffer correspondingly and seriously.

"Are we anywhere near saturation?" was asked of the president of a gas company in central New York. "Not in a thousand years," he answered and proceeded to name refrigeration, incineration, and other new uses for gas in the home and factory.

This is in marked contrast with a Western view in which it was pointed out that our heating load is increasing and the price of

competitive fuels is too high for serious consideration. Therefore, we have nothing to worry about.

On the contrary, a recent survey conducted in 24 states of the Union for the American Gas Association shows the following conditions to be true:

1. Increasing use of prepared foods by the housewife.
2. Greater consumption of meals away from home.
3. Increasing tendency to send family wash to the laundry.
4. Increase of family apartments operates against the use of domestic gas appliances.

Several of the largest Eastern gas companies report that more than 50 per cent of their consumers are listed as unprofitable. This simply means that the minority, the profitable consumer, is making up the loss of the minimum customer. This condition is having a serious effect in the East where annual family expenditure for gas is falling as low as \$20.80 in some cities and to a new level of \$17.90 in other communities.

To point out further that we are not doing a 100 per cent selling job, I shall again quote the American Gas Association survey which sets forth the fact that the average consumption of the high-salaried family is no greater than that of the low-salaried family. It is, therefore, readily apparent that a great amount of effort may well be spent on the high income group who have the ability to pay for such gas-consuming appliances as refrigerators, incinerators, furnaces, and room heaters, but who have not been urged to do so. This group is apparently spending more money for household necessities and luxuries and not a sufficient sum for gas appliances and gas.

A serious handicap in striving to make the public gas conscious is the fact that the public frequently has difficulty in locating the gas office; it is generally around the corner in a quiet location. The gas industry should get on Broadway where the lights are bright, where the throngs are passing and in passing are planning to make tomorrow's purchases. The customer cannot be expected to buy a modern, full-enameled, oven control gas

(Continued on page 178)

TIDE OF MEN AND AFFAIRS

Viggo E. Bird, who has been vice-president and general manager of the Connecticut Power Co., New London, Conn., is now executive vice-president of the Hartford Electric Light Co., Hartford, Conn.

H. B. Rust, president, The Koppers Company, Pittsburgh, Pa., has recently been made a director of the Westinghouse Electric and Manufacturing Co.

J. Henry Lakamp has retired from the position of manager of all gas properties of the Union Gas and Electric Co., of Cincinnati, Ohio, and subsidiary organizations. E. A. Munyan, formerly assistant to Mr. Lakamp, has succeeded him. The reorganization will not sever Mr. Lakamp's connection with the organization entirely, however, as he will continue in the capacity of consulting advisor in the gas department.

Mr. Lakamp's association with the Cincinnati company covers a period of more than 45 years. He took up the duties of messenger boy for the gas company on March 13, 1883.

H. C. Howard, gas engineer, United Gas & Electric Engineering Corp., New York, N. Y., is now vice-president of the United Engineering Corp., Houston, Texas.

W. F. Miller, industrial gas engineer, Public Service Co. of Northern Illinois, Chicago, Ill., is now manager of industrial sales for the same company.

W. H. Earle, formerly with The Koppers Construction Co., New York, N. Y., is now with the Philadelphia Coke Co., Philadelphia, Pa.

Frank L. Mendez, supt. of appliance sales, Philadelphia Suburban Gas & Electric Co., Chester, Pa., has been made commercial agent of the company.

The Robbins Publishing Co., New York, N. Y., have announced a number of important changes in the personnel of the company.

J. H. Moore, general manager of all the publications in the Robbins group, has been elected vice-president of each of the companies. Floyd W. Parsons, editorial director of all the publications, has been elected secretary of each company.

A. E. Lindquist, former middle-western representative, is now in New York City and holds the position of advertising manager of the gas group of the Robbins publications.

James R. Jennings, former managing editor of Gas Age-Record, is now eastern manager, replacing E. F. Ripley, resigned.

Edward H. Earnshaw, chief engineer, gas department, The Public Service Electric and Gas Co., Newark, N. J., has retired.

For more than 21 years Mr. Earnshaw has been associated with Public Service activities, having been in that time closely identified with the development of the gas division and having contributed largely to vast engineering projects.

Frank S. Clifford, general superintendent of the Fitchburgh Gas and Electric Co., Fitchburgh, Mass., is now assistant to the purchasing agent of Chas. H. Tenney and Co., Boston, Mass.

Robert M. Leach, treasurer of the Glenwood Range Co., Taunton, Mass., and a former director of the American Gas Association, has just been elected a director of the National Shawmut Bank of Boston, Mass.

Ralph E. Daniels, former manager of the gas department of the Eastern Service Co., Boston, Mass., has been made manager of the company and also a member of the board of directors.

H. P. Halvorson, former treasurer and manager, is now President of the Eastern Service Refrigeration Co.

A. B. Morton, manager of the Rome division of the Northern New York Utilities Co., Rome, N. Y., was recently elected President of the Rome Chamber of Commerce.

N. B. Bertolette is now the manager of the appliance service section of the Philadelphia Electric Co., the Philadelphia Suburban-Counties Gas and Electric Co., and the Delaware County Electric Co.

Joseph J. Nixon, who has been connected with the sales department of the Haverhill Gas Light Co., Haverhill, Mass., since 1926, has been made sales manager. He will fill the vacancy caused by the transfer of John J. McKearin to the Lowell Gas Light Co., Lowell, Mass.

Frank J. Cronin is now industrial sales engineer of the Haverhill Gas Light Co., Haverhill, Mass., succeeding H. S. Brasseur, resigned. Mr. Cronin has been with Stone and Webster properties for 16 years, and was assistant to Mr. Brasseur for some time.

R. M. Martin, director of displays for the Consolidated Gas Co. of New York, N. Y., and chairman of the Window Display Committee of the American Gas Association, was a recent speaker before the Advertising Club of Albany, N. Y.

The New York Power and Light Corp. acted as host to the Advertising Club, and affairs were in the charge of J. Lyman Gollegly, advertising manager of the company.

E. N. Watkins, general auditor of the Arkansas Natural Gas Corp., is now secretary of the corporation and subsidiaries.

Affiliated Association Activities

Pennsylvania Gas Association

THE Council of the Pennsylvania Gas Association met in Harrisburg on January 24, 1927, at which time the resignation of Mark Pendleton, president of the Association, was accepted with much regret. Mr. Pendleton has been made vice-president and general manager of the Iowa Public Service Corporation, Sioux City, Iowa.

Grier Hersh, president of the Pennsylvania Gas and Electric Company, York, Pa., was elected to fill Mr. Pendleton's unexpired term to April 10th and 11th, 1929, when the annual meeting will be held in Philadelphia.

Wisconsin Utilities Association

THE annual convention of the Gas Section of the Wisconsin Utilities Association will be held on Thursday and Friday, April 18-19, at Oshkosh, Wisconsin, according to announcement of John N. Cadby, executive secretary of the Association.

Further details of this interesting meeting will be given in the April issue of the MONTHLY.

New Jersey Gas Association

THE annual meeting of the New Jersey Gas Association, to be held at the Hotel Stacy-Trent, Trenton, N. J., April 24 and 25, is expected to attract a great many New Jersey gas men as well as some in the surrounding territory.

While it is impossible at this date to announce a definite program, it can be stated that there will be addresses on subjects of paramount interest by speakers who are especially well-qualified to address the meeting.

The first morning session on the 24th will be devoted to the business of the Association and an address on "Research and the Gas Business" by Alexander Forward, managing director of the American Gas Association.

Three papers will be given at the afternoon session and two of these will probably refer to gas rates. The third paper will be concerned with the operation and construction of high pressure systems.

At morning session on the 25th there will be papers on "Gas and Publicity," "Rise and Decline of Prepayment Meters," "Customer Contacts," "Modern Domestic Gas Sales Promotion," and "New Method of Utilizing Soft Coal as a Generator Fuel."

"A Pound of Fuel in the Harrison Gas Works" is the intriguing title of a paper to be presented at the afternoon session on the 25th. House heating and refrigeration will also be discussed.

Louis Stoecker, secretary-treasurer of the As-

sociation, states that advance interest in the Convention is extremely keen, and in his opinion the annual meeting will be one of the best this Association has held.

H. A. Stockton, Atlantic Highlands, N. J., is president and will preside at the sessions.

Oklahoma Utilities Association

THE eleventh annual convention of the Oklahoma Utilities Association, scheduled for March 12-14 at Oklahoma City, is expected again to set new high standards both as to attendance and features of interest and importance.

Oscar H. Fogg, President of the American Gas Association, will attend this convention and will be the principal speaker at the annual banquet the night of March 13. At the conclusion of his address Col. Fogg will present a McCarter Medal and certificate to J. W. Campbell and a McCarter certificate to J. S. Henderson, both of the Oklahoma Gas & Electric Co., Enid, Okla. This will be the first McCarter Medal to go west of the Mississippi River.

J. F. Owens, of Oklahoma City, chairman of the Public Relations National Section and a vice-president of the National Electric Light Association, will be toastmaster at the banquet. On the preceding evening the annual reception and ball will take place.

Among the national leaders of the utility industry who are expected to attend the Oklahoma convention are: F. B. MacKinnon, Chicago, President, United States Independent Telephone Association; Martin J. Insull, Chicago, President, Middle West Utilities Co.; Labert St. Clair, New York, advertising manager, American Electric Railway Association; Halford Erickson, Chicago, vice-president, Byllesby Engineering & Management Corp.; J. B. Wootan, Chicago, editor, Public Service Magazine, and Paul S. Clapp, New York, managing director, National Electric Light Association.

General sessions occupy the morning periods, with division and special meetings in the afternoon each day. The Oklahoma Association has Electric Light and Power, Telephone, Gas, Electric Railway, Manufacturers and Public Relations Divisions.

Exhibits are an important feature of this convention this year and interest in this phase of the meeting is reflected in the fact that all exhibit space was contracted for practically two months in advance of the convention.

The Oklahoma convention was among the first to offer high class entertainment features between papers at general sessions, a practice since adopted by numerous other conventions, including some of the national meetings. The eleventh Oklahoma convention promises to raise

still higher this year the standard of its entertainment features. Last year's registration was approximately 1000.

L. W. Scherer, president of the United Telephone Corp. of Oklahoma, is president of the Oklahoma Utilities Association, and Edw. F. McKay is manager.

Indiana Gas Association

THE 1929 annual meeting of the Indiana Gas Association is to be held at Gary, Ind., on May 1 and 2. The Association has taken "new life" this year and reflects more decidedly than it has for several years the progressive optimism and enthusiasm so apparent in the industry at large, according to F. W. Budd, secretary.

The Program Committee of the Association reports that it has been at work for several weeks and is confident they will have a program of unusual interest to the membership and visitors. Timely pertinent papers on production, distribution, and commercial subjects will be covered by the best authorities obtainable for the occasion.

The second day of the meeting, May 2, will be devoted to an inspection trip and to topics of common interest to the gas and electric industries. This will be a joint session as the Electric Association meets in the same city on May 2-3.

President T. J. Kelly, of Ft. Wayne, is working with the convention committees and directing the plans in general, which means to Indiana gas men that a successful and worth-while meeting is assured.

Among the items of especial interest will be the report on the Chair of Gas Engineering at Purdue University established in the fall of 1927 through the efforts of the Indiana Gas Association.

Mid-West Gas Association

THE annual convention of this Association is always a high spot in the year for the gas men in the territory, and the meeting to be held April 15, 16 and 17 this year will be no exception. The Hotel Nicoller, Minneapolis, Minn., will be headquarters.

Louis Stein, president of the Association, states that the program is now being arranged and even at this early date it is apparent that there will be a great deal in store for those who attend this meeting.

Great stress will be laid upon load building. A great deal of information will also be contained in the reports of Affiliation Representatives.

A few of the features of the program are:

George E. Whitwell, Philadelphia Co., Pittsburgh, Pa., will talk on "Increase of Domestic Gas Consumption."

H. A. Groth, Wm. H. Rankin Adv. Co., has taken for his subject, "Advertising."

Prof. H. B. Dorau, Northwestern University, will talk on "A Merchandising Program for the Gas Industry."

J. C. Miles, Warm Air Furnace Co., will talk on "Forced Air Heating."

R. W. Johnson, Time-O-Stat Company, on "Automatic Controls."

Alexander Forward, managing director of the American Gas Association, and Dr. D. C. Goudiss will also address the convention, but their subjects have not yet been announced.

Entertainment is in the hands of J. K. Swanson, vice-president and general manager of the Minneapolis Gas Light Co., and some unusual features are looked for in this connection.

President Stein has announced that the program will be further developed and completed at the meeting of officers and council of the Association to be held February 28.

Ohio Gas and Oil Men's Association

AN extremely interesting and varied program has been announced for the annual convention of this important Association to be held in Columbus, Ohio, March 5 and 6. Headquarters will be at the Elks Home on East Broad Street, where both the sessions and banquet will be held, according to an announcement by Wm. H. Thompson, secretary.

The morning of March 5 will be devoted to registration, and the first session will open at 1:30 P.M. with an address of welcome and the response by F. T. Eagleson, Columbus, Ohio.

John J. McMahon, East Ohio Gas Co., Cleveland, Ohio, will then deliver his President's Address, and this will be followed by the Report of the secretary-treasurer.

A paper on mixed gas, by H. C. Blackwell, Union Gas & Electric Co., Cincinnati, Ohio, will also be given and this will be followed by sectional meetings.

John G. Hanks will be chairman of the meeting on production of natural gas, James F. Curry chairman of the one on distribution, and L. A. Seyffert chairman of the one on accounting.

W. W. Freeman, president, Union Gas & Electric Co. and a director of the American Gas Association, will be the toastmaster at the banquet at 6:30 P. M. on March 5. There will be music and entertainment and an address entitled "Tales from the Kentucky Hills" by former Governor Edwin P. Morrow.

R. M. Conner, director, A. G. A. Testing Laboratory, will open the March 6 session at 10 o'clock with an address devoted to "Recent Developments in the Utilization of Gas."

"Safety First in the Natural Gas Business" will be the title of an address by J. M. Sisson of the East Ohio Gas Co., Cleveland, Ohio, and this will be followed by an address by H. C. Cooper, Hope Natural Gas Co., Pittsburgh, Pa.,

and chairman of the Technical and Research Committees of the Natural Gas Department of the American Gas Association.

At 12 o'clock on March 6 the International Derrick and Equipment Co. will tender a luncheon to the convention delegates. Transportation will be provided to the administration building of the company where the luncheon will be held and following the luncheon there will be an inspection of the plant.

Both J. J. McMahon, president of the Association and Mr. Thompson, secretary, are confident that there will be a record attendance at the meeting.

Illinois Gas Association

THE annual convention of the Illinois Gas Association will be held jointly with that of the Illinois Electric Association and the Illinois Electric Railway Association. The custom adopted in the past of having joint morning sessions and separate afternoon sessions will be followed, according to George W. Schwaner, secretary-treasurer.

The Gas Association's contribution to the program of the first morning, March 14, will be an address by Alexander Forward, managing director of the American Gas Association. The second morning session will be in the hands of the Illinois Committee on Public Utility Information.

The joint sessions are to be held in the Hotel Abraham Lincoln.

The detailed program of the Gas Section meetings, to be held at the Hotel Leland, is as follows:

On the 14th

"Publicity and Advertising"—J. R. Pershall, Public Service Co. of Northern Illinois, Chicago.

"Why is the Accountant"—H. M. Brundage, vice-president, Consolidated Gas Co. of New York, N. Y.

"Gas Industry Research at Illinois"—Dr. D. B. Keyes, University of Illinois, Urbana.

"The Dehydration of Tar"—H. A. Kleinman, Peoples Power Co., Moline, Ill.

On March 15

"Converting Systems from Low to Medium Pressure to Increase Capacity"—A. G. Ford, Western United Gas and Electric Co., Aurora, Ill.

"Personnel Training"—F. M. Dee, Jr., Business Research Corp., Chicago, Ill.

"Increasing Gas Sales Per Meter"—J. P. Cope, Allied Power and Light Corp., Jackson, Mich.

In addition to the program as outlined above there will be a large exhibit using The Elks' Club Auditorium with a space of approximately 100 x 70 feet—showing such mechanical exhibits as generating stations, gas holders, maps of the

territory, a display of advertising, and visual aids, charts, etc., used in carrying out work in connection with the speakers' bureau.

The women of the Association will hold an afternoon session on March 15. They have arranged a very interesting program with such speakers as Paul S. Clapp, managing director, National Electric Light Association; W. S. Vivian, Middle West Utilities Co., and Donald M. Mackie, Consumers Power Co. Just prior to this meeting there will be a luncheon for all women attending the convention.

Empire State Gas and Electric Association

THE annual meeting of the Gas Section of the Empire State Gas and Electric Association will be held at the Niagara Hotel, Niagara Falls, N. Y., April 25 and 26.

H. E. Merrill, of the Republic Light, Heat & Power Co., Tonawanda, chairman of the Section, announces a fine program for three business sessions during the two days.

Besides a technical program covering all the operating departments of the business, three widely known speakers will deliver addresses covering phases of the relation of the engineer and operator to the future of the business.

Among the technical papers to be submitted will be the following:

Large industrial gas meters, Tests on displacement types, Operating data on large tin meters, Other large meters.

Consumers meter diaphragms, locked meter practice, experiences with gas theft cases.

Carbonization Committee report with a description of the new Brooklyn Union Plant.

New pipe developments with their joints, new distribution tools and devices, service regulator practice.

Economics of pressure tank capacity design.

Shop Practice Committee report including servicing refrigerators, servicing house heating equipment, handling complaints.

The Water Gas Committee will submit papers on automatic grates and butane enrichment.

Southern Gas Association

THE 21st annual convention of the Southern Gas Association will be held at Memphis, April 23, 24, 25. Headquarters will be at the Hotel Peabody.

Preparations for an enjoyable entertainment program, as well as constructive business sessions during the convention are being made, and those who attend are assured of three days of good time along with helpful ideas.

Details of the business program have not been announced. Daniel H. Levan, superintendent, Savannah Gas Company, and chairman of the Technical Committee, has held meetings in which the program for these sessions has been practically developed. Geo. H. Schlatter, new

business manager, Jacksonville Gas Company, and chairman of the Commercial Section, promises also a most helpful series of discussions and papers for this phase of the convention. The Accounting Section, created at the Jacksonville meeting last year, will be a new addition to this year's gathering, and Marion M. May, chairman, is making up a program of interest and profit.

Entertainment features of the program have been practically agreed upon. Paul Renshaw, Memphis Power & Light Co., is chairman, and associated on the committee are W. A. Dunkley, J. J. Brennan, W. D. Adams of Memphis, Joseph G. Altick of Savannah, Wm. L. Plummer of Atlanta, A. H. Rumbold and J. C. Dyer of Jacksonville, and C. L. Lyon of Charlestown. Included in the entertainment as planned will be bridge and luncheon parties for the ladies, golf privileges at the several country clubs for men not

attending business sessions during afternoons, a theatre party on the first evening, a dinner dance on the second evening, and a boat trip on the afternoon of the third day of the convention.

General sessions will be held each morning, and the Technical, Commercial, and Accounting divisions will have sessions during the afternoons of the first two days. The third afternoon is open for entertainment.

The Memphis Power & Light Co. has recently completed conversion of its system for natural gas, and visitors to the convention will have an opportunity to visit the city gate metering station, where natural gas is delivered by the pipe line company, as well as the gas plant of the company. It is felt that this will give a double interest to many who attend the convention.

Gas Company Man Gets President's Medal



J. I. Whitehead

PROBABLY the first employee of a public utility company to win the President's Medal of the National Safety Council is John I. Whitehead of the Fall River Gas Works Co., Fall River, Mass. Mr. Whitehead received the medal for saving the life of a young woman who was taken unconscious from the water at Horseneck Beach in the summer of 1927.

The medal was presented to Mr. Whitehead recently by March L. Sperry, division manager of Stone & Webster, Inc., at a meeting held in Mr. Whitehead's honor. Attending this meeting were officials of the company and Stone & Webster, Inc., and representatives of other utilities and the Massachusetts Safety Council.

Mr. Whitehead is, of course, not eligible for the McCarter medal of the American Gas Association because this medal is awarded only to those employees of gas companies who save human life from gas asphyxiation by application of the prone pressure method.

The President's Medal of the Safety Council was established a short time ago to care for those people who save human life by the prone pressure method, but are not eligible for the Insull medal of the National Electric Light Association or the McCarter medal of the American Gas Association.

Mr. Whitehead's deed was an especially

noteworthy one. He was the only one in a crowd of fifty or more persons at the rescue who knew how to apply the prone pressure method. Through his application of the method the victim was revived after about fifteen minutes' work.

Bremer Wins McCarter Medal



Wm. Bremer

A McCARTER medal and certificate were recently presented to William Bremer, of the Union Gas & Electric Company, Cincinnati, Ohio, for saving the life of an employee of the company's East End Gas Works.

H. C. Blackwell, president of the company, awarded the medal and certificate to Bremer, and also presented the

McCarter certificate to Thomas Stanton who had assisted in a previous resuscitation case, helping Charles Weisbrodt in saving the life of a person asphyxiated with gas. Weisbrodt received the McCarter medal at the American Gas Association convention last fall.

More than four hundred men and women attended the meeting at Cincinnati, when Mr. Blackwell presented the medal and certificates.

Mr. Bremer was awarded the medal because he saved the life of a gas company employee who was overcome with gas. The prone pressure method of resuscitation and an inhalator were used for about 20 minutes before the patient was revived.

NATURAL GAS DEPARTMENT

S. W. MEALS, Chairman

E. J. STEPHANY, Secretary

H. C. MORRIS, Vice-Chairman

Storing and Measuring Large Quantities of Gas

By SAMUEL W. MEALS



S. W. Meals

THE entire industry owes a vote of thanks and congratulation to Governor Young, his Conservation Board, and the many large operating companies for the example recently set in co-operation and conservation of a large volume of natural gas. The report of Edward Higgins, of the Chamber of Mines and Oil, presented at the annual convention of the Pacific Coast Gas Association in September, 1928, indicates a saving of about 190,000 M cu.ft. daily. Of this amount saved, about 60,000 M cu.ft. was injected into partly depleted sands.

Re-pressuring the sands for recovery of oil has given the gas industry much valuable information as well as a new market for surplus gas. Storing natural gas in partly depleted sands is a practice that has been carried on for a number of years by several of the larger companies in the East. However, the practice has been an operating convenience rather than a program of conservation. Large volumes of gas have been stored during the summer months and used when the demand required in sections of Kentucky, West Virginia, Pennsylvania, New York, Oklahoma, and Texas.

The record of one company covers a period of more than ten years and, with an ideal storage reservoir found in a formation less than 1000 ft. in depth, covering an area of about 27 sq. miles with some 80 wells, they have stored more than 8,000,000 M cu.-



ft. The gas was purchased from another company and stored during the summer months. When the company started injecting gas, the rock pressure was 26 lbs. It was found that to raise the rock pressure 1 lb. required 218,000 M cu.ft., and if this amount was taken out, the rock pressure was reduced 1 lb. The pressure on the sand now is about 70 lbs.

At Buffalo, N. Y., they have made use of underground storage for a number of years, which has been of inestimable value in meeting the severe winter load. The gas was purchased in the Pennsylvania field, when it was available during the summer months, and stored. This storage field is located near the town of Concord in Erie County, New York, about 30 miles south of Buffalo. There are 23 wells now used for storing gas, located within an area of 800 acres. The average depth is 1900 ft. The first well was drilled in 1888, having a volume estimated at 18,000 M cu.ft. with 600 lbs. rock. In 1916 the rock pressure had declined to 48 lbs., when the company began storing gas. The greatest amount stored at any one time was about 300,000 M cu.ft. but 2,681,199 M cu.ft. has been stored

Mr. Meals is President of the Carnegie Natural Gas Corp., Pittsburgh, Pa., and chairman of the Natural Gas Dept., A. G. A.

Presented at Pacific Coast Conference of A. G. A., Los Angeles, Calif.

and used out as needed since June, 1916. With 50 lbs. differential over line pressure 10,000 M cu.ft. a day can be taken out.

Butler, Pa., has not known a shortage of gas, but there is an ideal operating condition due largely to one well in which gas is permitted to feed when the line pressure is built up. As the load decreases and the demand draws on the service, the gas stored in the well automatically supplies the demand.

In our operations in supplying the steel mills with natural gas we have a well which has been in use in like manner as the well referred to at Butler for almost 20 years. The well is located near Pittsburgh and connected with a 24" pipe line to the mills. This gave a prompt response to any peak demand. Five years ago we injected gas from a high rock pressure well into this well, building up the pressure from 40 lbs. to 90 lbs.

You may be familiar with the report by J. L. Dwyer in the December, 1927, *Oil and Gas Journal* of the Tidal Oil Company's operations in storing surplus or tail gas from the Burbank field in a shallow sand on their Osage lease in Oklahoma. The depth of the sand was 928 ft. with an initial rock pressure of 290 lbs. When gas was delivered from this field—to the drilling wells—withdrawal of 975,813 M cu.ft. of gas from the wells caused the pressure to decline from 290 lbs. to 123 lbs. and 135,000 M cu.ft. more withdrawn caused a further decline in rock pressure to 93 lbs. When re-introduction of gas began, 158,000 M cu.ft. injected increased the rock pressure from 93 lbs. to 128 lbs. The withdrawal of 135,000 M cu.ft. caused the rock pressure to drop from 128 lbs. to 93 lbs.

Gas trapped in the sand is often released by re-pressuring as proven by the experience of a company in Texas. Lean gas was metered into practically an exhausted sand. After injecting gas sufficient to increase the rock pressure 35 lbs., the gas was withdrawn, and 30 per cent more gas was recovered than was metered into the sand; also, the lean gas had picked up hydro-carbons from the sand which enriched it over 30 per cent.

We should have close cooperation between the gas and the oil operators in prop-

erly protecting producing sands, with a view to using partly depleted sands for storage. Large volume gas wells, when the sand is free from water, should be protected and *not plugged* when the gas is depleted, but retained for storing purposes. Then, when the manufactured gas industry adopts the process of extracting the methane from the coal and when the gas and power plants are located at the mines—where we think they should be—surplus gas can be manufactured and stored in underground storage sufficient to meet the maximum demands and the heating load trouble will be solved.

Measurement of Gas

The measurement of gas has presented many problems on account of its physical properties of change of volume with change of pressure and temperature. Two general methods have been used: A *direct* method of measuring the actual volume at line pressure and temperature by displacement, and an *indirect* method of determining the volume from the rate of flow or velocity.

The common domestic meter is an example of the displacement type. This meter is a small engine in which the diaphragms are the pistons, moving forward and backward in the two cylinders, one on each side of a middle partition. The displacement type includes diaphragm meters, liquid seal, rotary, and proportional meters. In order to obtain the quantity expressed in standard cubic feet, the registration is revised by factors for pressure and temperature.

The meters based upon the *indirect* method are the pitot tube, orifice, venturi, thermal, and variable orifice.

As in every line of business instruments have been developed for the gas industry as fast as the demand has been created. In the early days of the manufactured gas industry, the cost of manufactured gas was very high, small meters similar to those used at present were developed and installed to measure the consumption by the customers. In order to improve the efficiency of the plant and determine the loss of the expensive product, the manufacturer desired knowledge of the output of the works or station. The large wet



The Annual Convention of the NATURAL GAS DEPARTMENT

will be the biggest and best ever held by the Natural Gas Industry.
Everyone will be there—so make your own plans NOW.

KANSAS CITY, MO., MAY 6-9

drum type of station meter was developed to meet the requirement for accuracy and simplicity of operation. This type has been accepted as a fundamental standard of measurement for years. It will measure all of the gas which passes through it up to the maximum capacity.

In the early period of the natural gas industry, the demand for measurement did not exist. For a long time many of the producers and consumers believed that the supply was unlimited. They were firmly convinced that an adequate supply to meet all demands could be obtained by drilling a sufficient number of wells in a gas producing area. The problem which confronted the producer was not how to conserve the gas but how to develop a market. They had to offer the incentive of extremely low rates to off-set the ever present danger of fires and explosions from the high pressure gas passing through the poor quality of pipe, fittings and inadequate regulators which were available for use at that time.

When the producers and consumers became convinced that the supply of natural gas was not unlimited and that it could be properly controlled and used as the most valuable of fuels, meters were installed for measurement of the consumption.

However, in this instance it was believed that the tin case meter was not strong enough to withstand the higher pressure at which the natural gas was distributed and the meter enclosed in an iron case was produced to meet this requirement.

In most cases, the gas was produced in the field, transmitted by pipe line to the nearest city or town, and distributed by the same party or company. As the business increased longer lines were laid. Gas was collected from many fields and distributed in many communities. The business became diversified. Some became producers selling to pipe line companies which in turn sold to distributors.

It was not desirable and frequently not possible to reduce the pressure so that the gas would be measured at low pressure. The need for large capacity high-pressure meters was met in a limited way by increasing the size of the meter and increasing the thickness of the iron case for higher pressures, but the cost increased very rapidly as the pressure and capacity increased.

The high-pressure, large-volume proportional meter was designed to cover the maximum ranges of pressure and capacity. In the proportional meter, the flow of gas is divided in to two streams—one stream being small but a definite percentage of the other larger stream. The flow through the smaller stream is measured by a small meter enclosed in a high-pressure case. The total flow is obtained from a register operated by the small meter. The minimum rate of flow which can be accurately measured is about 15 per cent of the maximum. The accuracy of the meter depends upon the maintenance of constant value of friction in the small meter and elimination of dirt from the edges of the main and proportional valves.

The early forms of pitot tube measurement were undoubtedly an adaptation of the pitot tube method of determining the open flow of wells. In this method, the rate of flow is determined by measurement of pressure and impact pressure. Long polished tubes were introduced in 1904 and very accurate results are obtainable from a maximum to one-third of the maximum. In case the flow should be materially increased or decreased, two or more tubes are required or one tube must be replaced by another tube if the average range of flow is to be accurately measured.

This method of measurement was supplanted by the orifice meter in which the simple accurately machined circular orifice replaced the expensive pitot tube. At this time the recording differential and static pressure gauge was introduced and gradually developed from two single recording instruments made of a heavy differential gauge casing and a separate pressure gauge to the present type of mercury type differential gauge, with both records on the same chart.

Although the orifice meter is very simple and adaptable to the widest range of conditions, it has met the demand for accuracy to such an extent that it is an accepted standard of primary measurement for all conditions where the range of maximum to minimum rate of flow does not exceed a rate of three to one, and for those cases where the range of flow is greater, the combination installation is adaptable. When the rate of flow changes for a long period of time, the capacity can be changed by removing the orifice and installing a larger or smaller orifice as required.

Venturi Meters

Venturi meters are similar in principle to the orifice meter with the exception that the pressure loss on account of the tube is a very small percentage of the differential. When the rate of flow changes materially, the venturi tube is replaced by one having a larger or smaller throat.

Another type of large volume meter was derived from the rotary blower or pump with accurately machined surfaces of the case and impellers. In this type the measurement is

by actual displacement of the gas at the pressure and temperature of flow, and the quantity in cu.ft. at standard conditions is obtained by multiplying the quantity by pressure and temperature factors for each volume passing through the meter, the pressure being recorded on a volume and pressure gauge.

Thermal Meters

The thermal meter measures the quantity indirectly by measuring the current required to heat the gas a definite number of degrees. The definite temperature difference between the unheated gas and the heated gas is maintained constant by automatically increasing or decreasing the current to the heater. The volume is expressed as the quantity in standard cu.ft. regardless of line temperature or pressure, but factors must be applied if the composition of the gas changes materially as the specific heat changes with the constituents.

The orifice meter consists of a fixed orifice and the change of the rate of flow produces increasing or decreasing differential. Recently a meter has been developed which measures the rate of flow by means of a variable orifice which in its simplest form consists of maintaining a fixed definite velocity and the size of the orifice is automatically varied so that the opening of the orifice is a measure of the rate of flow. The rate of flow which may be varied from zero to the maximum capacity of the meters is recorded on a chart and is totaled every 20 seconds in standard cu.ft.

The Gas Measurement Committee of the Natural Gas Association was authorized by the Board of Directors during the year 1925, and has continued to function since that time.

In 1925 the committee conducted some tests on three orifices against a covered gas holder, made available for the work by the East Ohio Gas Co., Cleveland, Ohio. The object of these tests was to determine the discharge coefficients for these orifices under very definite and limited conditions.

The next year, 1926, the work undertaken was a study of the effects of many types and combinations of pipe fittings at various dis-

tances from the orifice and also the effectiveness of different designs of straightening vanes in eliminating the disturbances produced by the fittings. As a result of this work, which was conducted at the plant of the Iroquois Gas Corporation, Buffalo, N. Y., the committee prepared and issued a tentative code on the installation of orifice meters.

Important Conclusions

During 1927 the work of 1926 continued, using a slightly modified set-up to check the disturbance measurements. Several important conclusions have been drawn from these experiments, among them the following:

When a swedge is used upstream from the orifice, straightening vanes must not be used between the swedge and orifice if a larger orifice flange is installed. Disturbances caused by a combination of various fittings have an effect proportional to the distance of the disturbance from the orifice in terms of pipe diameter. In other words, the usual theory of geometrical relationships is found to hold.

Last year an extensive series of tests was started in order to study the effect on the discharge coefficient of changing the rate of flow. This series served as a check on similar tests made by the Bureau of Standards at Edgewood Arsenal and showed changes of the same kind and approximately the same magnitude as recorded in the previous tests.

During the last summer the work of the committee was pursued first at Buffalo and later at Hastings Station of the Hope Natural Gas Company in West Virginia.

More Recent Work

At Buffalo check measurements were made to corroborate some of the data secured the year before on orifice coefficients with varying flows and the work was undertaken to determine the coefficients as affected by pressure conditions. This led to a study of the effect upon orifice measurements of the deviation from Boyle's Law which is observed with most natural gases. As a result of this work the committee has secured information which will doubtless permit it to draw up

specific recommendations in its next report covering the values of orifice meter coefficients as well as the method of making allowance for deviation from the gas laws when measured under extremely high pressures.

The order of precision obtained in its work by this Committee is of an extremely gratifying nature and compares favorably with work done in the most reputable scientific laboratories, and as a result of this the final conclusions to be reached by the Committee and published in its report should place the measurement of gas by orifice meter upon a firm and unquestioned foundation, and it is a work for which the Association should receive the highest commendation.

Penn State to Have Gas Advisory Board

FOURTEEN prominent men in the petroleum and natural gas industries of Western Pennsylvania have been appointed to form a petroleum advisory board and a natural gas advisory board for the School of Mines and Metallurgy at The Pennsylvania State College, according to an announcement made recently by Edward Steidle, Dean of the School of Mines and Metallurgy at the College.

The boards, which form the first advisory groups for education in oil and gas production engineering inaugurated by any State college or university, according to Dean Steidle, will assist the College in working out various problems of the School of Mines so that the College may better serve the oil and gas industries of the State. The program of the College embraces first, fundamental education and extension courses that fit the requirements of the industries, and second, applied research and investigation that will conserve and better utilize natural resources and help make for better efficiency in the industries. Dr. George H. Ashley, State Geologist, Harrisburg, will act as a member of each of the advisory boards.

The following have been appointed to the natural gas board from western Pennsylvania: S. W. Meals, president, Carnegie Natural Gas Company, Pittsburgh and chairman, Natural Gas Dept., A. G. A.; G. W. Ratcliffe, president, Manufacturers Light and Heat Company, Pittsburgh; F. F. Schauer, general manager, Equitable Gas Company, Pittsburgh; J. B. Tonkin, vice-president, Peoples Natural Gas Company, Pittsburgh; L. W. Young, Jr., president, South Penn Oil Company, Pittsburgh.

Agencies of Progress

(Continued from page 152)

eration of our manufacturers and of governmental bureaus, is the outstanding example in American industry of self-regulation in the public interest.

Salesmanship

What are the most significant trends in the economics of our day? We all know that they are economies in production coupled with liberal if not lavish expenditures in marketing, together with the consequent shift in employment. Since 1920, says the Department of Commerce, our factories have decreased their employes by 915,000 and our farms by 800,000 while the newer luxury and convenience industries have multiplied their workers. It is estimated that there are now 1,575,000 more salesmen in the United States than in 1920 against 1,700,000 fewer producing workmen. We are paying for use rather than ownership when we buy. Instalment sales multiply and so long as public confidence is maintained that condition will not only continue but grow. We have and will continue to have to compete with many others for our proper share of the customer's dollar, and to do this our sales people must be equipped for the competitive strife.

Therefore, modern marketing problems are scheduled for able and adequate discussion at this meeting. I shall not go into them. Permit me to say, however, that as a most important agency of progress at this time the Association has organized and sponsored and is now conducting in cooperation with a nationally known specialized organization, and based upon extensive preliminary research, a Training Course for Domestic Gas Salesmen. It is now well under way and we are happy to have practically unanimous approval from the entire industry. In many cases this approval is given with the greatest enthusiasm. It cannot but be helpful. Many companies are assisting their salesmen to finance the training and in perhaps a majority of the instances are defraying the entire expense upon proof of satisfactory completion of the course.

An outstanding agency of progress lies in fostering the construction and demonstration of fully gas-equipped homes throughout the country. A. E. Higgins is our field agent in this work. He holds meetings with gas company representatives, manufacturers, dealers, plumbers, and tells them the story of cooperative sales efforts and laboratory-assured safety. Do you know that in the past 14 months 3,000 such Blue Star Homes have been built and 36 of them have been demonstrated in as many cities and visited by perhaps two million people who were interested enough to look for comfortable quality gas-equipped homes?

Our organized efforts through training courses, surveys, printed literature and otherwise, to educate, train and develop industrial gas sales engineers, are not new and are well-known throughout the industry. It is one of the most important agencies for the progress of the industry though it is not new.

The other underdevelopment in our salesmanship is lack of adequate sales outlets through cooperation with dealers and others.

Advertising

The New England Plan of Cooperative Advertising will be fully explained to you. The principle involved in this plan has been officially endorsed by the Executive Board of the American Gas Association, and the Publicity and Advertising Section, in cooperation with the other Sections, is engaged in formulating general principles for carrying out such plans regionally in the country to serve as a general basis to be undoubtedly changed where needed to meet differing conditions. In New England the plan apparently works. I can imagine no reason why it should not work elsewhere.

It is possible only to touch a few high spots. These agencies of progress have been officially approved and financed by our Executive Board, and the Association machinery and resources are engaged in their execution. They represent the demands of the time and the vision of the future as determined by the responsible men of the industry and we believe that they meet the more urgent necessities of the day.

ACCOUNTING SECTION

F. H. PATTERSON, Chairman

J. L. CONOVER, Vice-Chairman

H. W. HARTMAN, Secretary

Announce Accounting Conference Program

ALL accountants of the manufactured and natural gas industries are urged to make their arrangements to attend the first annual Spring Conference of the Accounting Section of the American Gas Association, at the Hotel Stevens, Chicago, Ill., March 21-22.

This conference of the accountants takes the place of the usual spring committee meetings, with the added advantage that all will be able to take part in the active discussion of pertinent problems. A record attendance is expected, and reservations should be made direct with the Hotel Stevens in the near future.

The program committee of the conference, with Edward Porter, of the Philadelphia Suburban-Counties Gas & Electric Co., Philadelphia, Pa., as chairman, has announced the following program of important subjects:

Thursday, Mar. 21, 10 A.M.

Merchandise Accounting as It Affects the Problems of the Commercial Section—H. C. Davidson, Consolidated Gas Co. of New York.

Developments in Office Labor Saving Devices and Billing Methods—H. E. Cliff, The Public Service Electric & Gas Co., Newark, N. J.

Public Relations from the Distribution Engineer's Viewpoint—Harry L. Ellis, The Public Service Electric & Gas Co., Newark, N. J.

Thursday, Mar. 21, 2 P.M.

Cost Plus and the Lump Sum Contract in Relation to Fixed Capital Records—C. E. Eble, Consolidated Gas Co. of New York.

Natural Gas Land Department Records—J. W. Kidd, Hope Natural Gas Co., Pittsburgh, Pa.

Gas Company Credits and Collections—J. G. Waddick, The Peoples Gas Light & Coke Co., Chicago, Ill.



F. H. Patterson



H. W. Hartman

Friday, Mar. 22, 10 A.M.

Getting and Keeping Close to the Customer—E. P. Prezzano, Westchester Lighting Co., Mt. Vernon, N. Y.

Method of Training and Supervising Contract Personnel—Wm. Diehl, Bronx Gas and Electric Co., New York, N. Y.

Functions of the Auditor—D. H. Mitchell, Northern Indiana Public Service Co., Hammond, Ind.

Friday, Mar. 22, 2 P.M.

Development of Accounting Office Personnel—H. B. Berger, H. L. Doherty & Co., New York, N. Y.

Statistics of the Gas Industry—Paul Ryan, American Gas Association, New York, N. Y.

Open Forum.

University of Michigan Issues Booklet

THE University of Michigan, Ann Arbor, Mich., has issued a new publication of the graduate and undergraduate courses in the Chemical Engineering Department. A great many of these courses are of direct value to gas engineers and all interested are requested to write to the Department of Chemical Engineers at the University for further information.

Professor Alfred H. White, professor of Chemical Engineering, writes as follows regarding the courses available:

"We do not believe in giving undergraduate students sharply specialized training in any specific field. It is our experience that they succeed better with a broad fundamental training in Chemical Engineering and with specialization reserved for graduate work.

"One of the important developments in recent years has been the demand from the industries for men with graduate training. This is reflected in the growth of our graduate work. During the present academic year there are 41 graduate students enrolled in the Department of Chemical and Metallurgical Engineering at the University of Michigan, of whom

23 already have the Master's degree and are working for the Doctorate.

"The East Engineering Building gives unusual facilities for advanced laboratory work. The Department of Engineering Research has important contacts with the chemical industry and several industrial fellowships will be available for graduate students next year. Application should be made by April 1."

An important part of the booklet which has just been generally released is a listing of a number of research papers on subjects of particular interest.

Are Conditions Different?

(Continued from page 165)

range if she has to spend time looking for our display rooms. She buys where she shops, on Broadway, where window displays are arranged to her liking. Unfortunately, she rarely sees our products on display. Her purchases reflect this condition—she spends \$69 for a gas range whereas another \$79, which should have been added to the purchase, goes into the radio, new furniture, or personal purchases. This results in a two-fold loss to the industry, loss to the range manufacturer and loss to the utility in a larger use of gas which naturally results from the use of the oven controlled appliance.

Certainly the pressure brought to bear on the customer for a larger share of his dollar is not going to lessen in the future with the chain department store idea honey-combing the country. With long term payments tying up a substantial part of the customer's dollar long before it is earned, can we expect the gas industry to ride an upward curve without exerting some serious selling effort?

"It is the job of every gas company, large or small," says Samuel Insull, "to supply its product for every heating purpose in the community—every last one—to which gas can be reasonably applied."

This was the same sound advice offered by Mr. Insull a number of years ago to another industry, and I do not need to point out the fact that industry has consistently profited by Mr. Insull's advice. He further states that the gas industry does not spend sufficiently for new business campaigning and that sales promotion should receive greater support.

It is costing money and real effort

today to maintain the demand, but it will cost a great deal more tomorrow and five years hence. This added cost will mount in proportion to the increase in competition. In the past a few necessities made up the requirements of the public. No so today. The luxuries of yesterday are the necessities of today; hence, the important need of the gas industry to keep itself constantly before the public, lest the much bombarded public forget about us.

It is not enough to advertise our business today and assume that we will always remain favorably intrenched in the minds of the consumers. The public will remain gas minded or *gas conscious* only so long as we keep ourselves before the world. The minute we decrease our advertising appropriation, our new business budget, just then we are losing our position in the eyes of the gas consuming public.

A radio message to the woman of the house in her own home, billboard copy before the motorist as he travels to and from his place of business, constant newspaper advertising telling of the convenience and modernness of gas are tried and sure methods of pushing the gas frontier further and further into the territory of our competitor. That advertising must be one of our most fundamental weapons is certain.

If the sauerkraut industry can convince us of the necessity of drinking each morning a glass of this beverage, if corned beef and cabbage, formerly a very plebian dish fit only for the privacy of one's home, can be marketed on the dining cars of all de luxe trains, if William Wrigley, through the generous use of advertising, can create a demand for his gum in Boise, Tampa, or the Philippine Islands, then surely the gas industry can make itself the most dominating factor wherever heat is required.

Since a satisfactory gas appliance is the instrument through which we must sell our gas, it is this appliance about which we should tell the world. When one of our customers purchases one of these devices, whether it be a range, a refrigerator or a waffle iron, that customer has made

(Continued on page 182)

PUBLICITY AND ADVERTISING SECTION

E. FRANK GARDINER, Chairman

JAMES M. BENNETT, Vice-Chairman

CHARLES W. PERSON, Secretary

Gas Industry Is Active in Nationwide Cleanliness Campaign

By NELSON N. MARSHMAN

BECAUSE soap plus hot water equals cleanliness, there has been close cooperation between the gas and soap industries, with the result that at this writing the Cleanliness Campaign is nationwide in influence and is benefiting both industries alike.

The present status of the Cleanliness Campaign has been given in the following brief outline form to enable all to get the picture correctly and quickly:

One hundred fifty gas companies are now emphasizing cleanliness in advertising, publicity, radio talks, and other ways.

These gas companies are located in 29 states, the District of Columbia, and three provinces in Canada.

Forty-six gas companies have purchased mats for newspaper advertising and folders for envelope stuffers as developed by Cleanliness Institute for the American Gas Association.

Thirty home service directors employed by gas companies are using Institute material and are promoting cleanliness in their classes and other contacts with housewives.

Clippings received at the Institute office from a single source with a four weeks' period after the material developed had been released by the American Gas Association showed that 25 gas companies had run newspaper advertisements emphasizing cleanliness.

American Gas Association officials are pleased with the cooperation which is result-



ing in the use of cleanliness material by gas companies in all parts of the country.

There is indication that many more gas companies will use the material and program during the

coming months and thus help to sell cleanliness in their communities.

The figures and facts above do not include figures of the New England Gas Association's campaign. This was the use of one of the Association's soap and water advertisements as the base for an advertisement of their own in every New England newspaper, followed by a display of this "Cleanliness" advertisement in the windows of gas companies throughout New England.

In the following picture of gas company activity by states, figures following towns refer to four phases of cooperation:

1. Purchase by gas companies of advertising mats.
2. Home service departments of gas companies ask for material.
3. Gas companies request publicity, radio talks, slogans, etc.
4. Purchase by gas companies of leaflet "Step in Before You Step Out" as an envelope stuffer.

Alabama—Birmingham (3); Mobile (1) (3).
California—Fresno (2); Los Angeles (1);
Pomona (2); San Diego (3); San Francisco (3);
Santa Monica (1).

Connecticut—Bristol (2); Hartford (1);
Meriden (3); New Haven (1); New London
(2); Norwich (2) (3).

District of Columbia—Washington (3).
Florida—Jacksonville (3).

Georgia—Atlanta (1); Augusta (3); Colum-
bus (1); Savannah (3); Waycross (1).

Illinois—Chicago (3); Lawrenceville (3);

Mr. Marshman is assistant director of Cleanliness Institute.

Lincoln (1); Litchfield (3); Moline (3); Peoria (1); Rockford (1) (2).

Indiana—Anderson (1) (3); Evansville (3); Hammond (3); Indianapolis (1) (2); Laporte (3); Washington (1).

Iowa—Council Bluffs (1); Davenport (3); Mason City (1).

Louisiana—Baton Rouge (1).

Maryland—Hagerstown (3); Cumberland (3).
Massachusetts—Boston (1) (2) (3); Beverly (3); Brockton (3); Fall River (1); Fitchburg (3); Hyde Park (3); Lawrence (1); Lowell (3); Lynn (3); Malden (2) (3); Newburyport (3); Newton (3); Plymouth (3); Quincy (1); Revere (3); Salem (3); Springfield (3); Webster (2) (3); Worcester (3).

Michigan—Albion (3); Battle Creek (2); Detroit (3); Grand Rapids (3); Jackson (1); Plymouth (3); South Haven (1).

Missouri—Kansas City (1); Lexington (1); Webster Groves (3).

Montana—Great Falls (1).

New Hampshire—Concord (1) (4); Manchester (1) (3).

Nevada—Reno (1) (4).

New Jersey—Atlantic City (2); Bridgeton (3); Elizabeth (1); Jersey City (2); Newark (2) (3).

New York—Albany (3); Brooklyn (2); Coney Island (2); Elmira (1); Glens Falls (2); Geneva (3); Hastings (1); Hornell (1); Lockport (1); Nyack (3); New York City (1) (3); Poughkeepsie (2) (3); Rochester (2); Plattsburgh (2); Rome (1) (2); Tarrytown (3); Tonawanda (3).

Ohio—Ashtabula (3); Cincinnati (3); Cleveland (3); Columbus (2) (3); Dayton (3).

Oklahoma—Bartlesville (1).

Oregon—Medford (3); Portland (3).

Pennsylvania—Conshohocken (3); Greenville (1); Honesdale (3); Lewiston (3); Mt. Carmel (1); Philadelphia (3); Pittsburgh (2) (3); Scranton (3); York (1) (3).

Rhode Island—Pawtucket (3).

Tennessee—Chattanooga (3).

Texas—Dallas (3); Waxahatchie (1).

Vermont—Bennington (3); St. Johnsbury (3).

Washington—Bellingham (1); Seattle (3).

West Virginia—Charleston (3); Fairmont (3); Wheeling (3).

Wisconsin—Fond du Lac (2); Green Bay (2); Milwaukee (1) (2).

Canada—Montreal (2); Ottawa (2); Toronto (2).

Nova Scotia—Halifax (3).

As a review of the Institute's cooperation with the gas industry leading to the above activity, the high spots are as follows:

Article by Roscoe C. Edlund in the American Gas Association MONTHLY.

March, 1928, a circular letter from the Association to the gas industry enclosing reprint of the article mentioned above.

A request from the American Gas Association for a cooperative plan.

Proposal of a plan consisting of preparation by us for the American Gas Association of the following:

Advertisements.

Home service department talks.

Mother Goose in Her Bath, rhymes.

Slogans and pertinent sayings entitled "Hot from the Spigot."

Suggested talk for gas company executives entitled "Gold Mines in your Back Yard."

"Step in Before You Step Out," a four-page leaflet for insertion with gas bills.

Authorization by Cleanliness Institute's directors of small expenditure for this work.

The actual development of the material described above.

Cleanliness Institute's exhibit at the A. G. A. Convention in Atlantic City in October.

A. G. A. sends sample sets of this material to all gas companies with a letter from their managing director, Alexander Forward, urging gas companies to use the cleanliness appeal and thereby sell more gas.

Results will be nation-wide and will be much greater than can be indicated at this preliminary stage.

In the Letter Box

J. & G. BRASS COMPANY, Inc.
South River, N. J.

To the Editor:

We see in the February issue of the Monthly an article entitled "A Note on Modernizing the Gas Range," and we take this opportunity to add a few comments.

While we agree with the writer in every respect, we feel that if he would examine a self-latching gas cock, such as we manufacture, he will find that price does not make it prohibitive for range manufacturers to adopt and thus promote absolute safety and confidence in the home.

The public, we know, would be only too glad to get their gas ranges equipped with such a device as this to promote more safety in the home. The proof of this statement is that we receive numerous inquiries for these gas cocks from various parts of the country.

Eugene Gansfried,
General Manager.

MANUFACTURERS SECTION

H. LEIGH WHITELAW, Chairman

F. G. CURFMAN, Vice-Chairman

C. W. BERGHORN, Secretary

Many Companies Apply for Space at Kansas City Convention

FEBRUARY indications point to a large exhibit of appliances and equipment at the convention of the Natural Gas Department of the A. G. A., at Kansas City, Mo., May 6-9, according to C. W. Berghorn, director of exhibits.

"In this issue of the MONTHLY we present a list of 100 companies which have actually applied for space at the exhibit," Mr. Berghorn says. "A study of this list shows that every appliance and piece of equipment known to natural gas practice will be demonstrated.

"It is particularly gratifying to note the number of new exhibitors who are this year anxious to reserve space. The exhibition committee is working to have the best exhibit ever held, one that will be well worth the attention of every natural gas man.

"Because of the unprecedented demand for space this year, the committee met with considerable problems connected with space allotment. However, they have given careful consideration to all factors involved, and have made an earnest effort to satisfy all demands."

The list of companies applying for space at the exhibit as of February 23 is as follows:

A-B Stove Co., Battle Creek, Mich.
Alcazar Range & Heater Co., Milwaukee, Wis.
American Cast Iron Pipe Co., Birmingham, Ala.
American Gas Products Corp., New York, N. Y.
American Heater Corp., St. Louis, Mo.
American Range Corp., Shakopee, Minn.
Arco Co., Cleveland, Ohio
Beckwith Co., Dowagiac, Mich.
B-Line Boiler Co., Cleveland, Ohio
Bridge & Beach Mfg. Co., St. Louis, Mo.
Bristol Co., Waterbury, Conn.
Bryan Steam Corp., Peru, Ind.
Bryant Heater & Mfg. Co., Cleveland, Ohio
Buck's Stove & Range Co., St. Louis, Mo.
Burgess-Parr Co., Moline, Ill.
Century Stove & Mfg. Co., Kansas City, Mo.
Chaplin-Fulton Mfg. Co., Pittsburgh, Pa.

Cleveland Gas Burner & Appliance Co., Cleveland, Ohio
Cleveland Heater Co., Cleveland, Ohio
Cleveland Trencher Co., Cleveland, Ohio
Clow & Sons, James B., Chicago, Ill.
Columbus Heating & Ventilating Co., Columbus, Ohio
Connersville Blower Co., Connersville, Ind.
Continental Supply Co., St. Louis, Mo.
Cooper Co., C. & G., Mt. Vernon, Ohio
Crane Co., Chicago, Ill.

Darling Valve & Mfg. Co., Williamsport, Pa.
Dearborn Chemical Co., Chicago, Ill.
Detroit-Michigan Stove Co., "Garland Div.," Detroit, Mich.
Detroit-Michigan Stove Co., "Jewel Div.," Detroit, Mich.
Dresser Mfg. Co., S. R., Bradford, Pa.

Electrolux Servel Corp., New York, N. Y.
Eriez Stove & Mfg. Co., Erie, Pa.
Estate Stove Co., Hamilton, Ohio

Fisher Governor Co., Marshalltown, Iowa
Fountain-Way Corp., Cincinnati, Ohio
Foxboro Co., Foxboro, Mass.
Frick Reid Supply Co., Pittsburgh, Pa.

General Gas Light Co., Kalamazoo, Mich.
Giant Mfg. Co., Council Bluffs, Iowa
Great Western Stove Co., Leavenworth, Kansas
Goble Gas Regulator Co., Anderson, Ind.
Guardian Gas Appliance Co., Cleveland, Ohio

Hill Hubbell & Co., Tulsa, Okla.
Home Incinerator Co., Milwaukee, Wis.
Homestead Heater Co., Newark, N. J.
Hurley Machine Co., Chicago, Ill.

Kansas City Gas Co., Kansas City, Mo.
Kernit Incinerator Co., Ampere, N. J.

Lamneck Co., W. E., Columbus, Ohio
Lattner Mfg. Co., P. M., Cedar Rapids, Iowa
Linde Air Products Co., New York, N. Y.
Lunkenheimer Co., Cincinnati, Ohio

Malleable Iron Range Co., Beaver Dam, Wis.
Metric Metal Works, Erie, Pa.
Mettler Co., Lee B., Los Angeles, Calif.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Moore Bros. Co., Joliet, Ill.
Mueller Co., Decatur, Ill.
Mueller Furnace Co., L. J., Milwaukee, Wis.

National Cast Iron Pipe Co., Birmingham, Ala.
 National Supply Co., Toledo, Ohio
 National Tube Co., Pittsburgh, Pa.
 Natural Gas Magazine, Cincinnati, Ohio
 New Method Stove Co., Mansfield, Ohio

Ohio Foundry & Manufacturing Co., Steubenville, Ohio

Oil Well Supply Co., Pittsburgh, Pa.

Payne Furnace & Supply Co., Beverly Hills, Calif.
 Peerless Manufacturing Co., Louisville, Ky.
 Permutit Co., Kansas City, Mo.
 Pittsburgh Equitable Meter Co., Pittsburgh, Pa.
 Pittsburgh Water Heater Co., Pittsburgh, Pa.

Refinery Supply Co., Tulsa, Okla.
 Reliable Stove Co. Div., Cleveland, Ohio
 Reynolds Gas Regulator Co., Anderson, Ind.
 Roberts Gas Burner Corp., Buffalo, N. Y.
 Robertshaw Thermostat Co., Youngwood, Pa.
 Roesch Enamel Range Co., Belleville, Ill.
 Roper Corp., Geo. D., Rockford, Ill.
 Ruud Manufacturing Co., Pittsburgh, Pa.

Safety Gas Lighter Co., Lynn, Mass.
 Safety Gas Main Stopper Co., Brooklyn, N. Y.
 Security Stove & Mfg. Co., Kansas City, Mo.
 Sherwin-Williams Co., Cleveland, Ohio
 Skinner Co., M. B., South Bend, Ind.
 Smith Corp., A. O., Milwaukee, Wis.
 Spencer Thermostat Co., Cambridge, Mass.
 Sprague Meter Co., Bridgeport, Conn.
 Standard Gas Equipment Corp., New York, N. Y.
 Surface Combustion Co., Toledo, Ohio
 Sweet & Doyle Foundry & Machine Co., Troy, N. Y.

Time-O-Stat Controls Co., Elkhart, Ind.
 Troop Water Heater Co., Pittsburgh, Pa.
 Tulsa Stove & Foundry Co., Sand Springs, Oklahoma

U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J.

Victaulic Co. of America, New York, N. Y.

Wailles Dove Hermiston Corp., Tulsa, Okla.
 Walworth Co., New York, N. Y.
 Western Gas Magazine, Los Angeles, Calif.
 W-K-M Co. Inc., Houston, Texas
 Wood Mfg. Co., John, Conshohocken, Pa.
 Worthington Pump & Machinery Corp., New York, N. Y.
 Wyandotte Gas Co., Kansas City, Kan.

THE editor's attention has been called to the misleading subhead of the article in the December issue of the *Monthly* on the refueling of the Graf Zeppelin. This sub-head was "Louisville Gas & Electric Co. Supplies Entirely Satisfactory Fuel for Successful Trip Across Atlantic." The Kentucky Oxygen-Hydrogen Co., of Louisville, Ky., was entirely responsible for furnishing the fuel gas to the zeppelin.

Visiting Other Plants

(Continued from page 144)

Simplification and improvement in customers' ledgers.

Simplification and improvement in meter route books.

Sulphate drain table.

Knowledge of coal fields and mining conditions.

Coke pusher rail construction.

Tile lining of coke chutes.

Centrifugal exhausters.

Clearing of house service or supply pipes.

Customer meter painting.

Visits to other places pay. We should not expect to get \$1,000 worth of information for a 2c. stamp by correspondence. Twenty-five dollars spent in the form of a visit goes a long way toward getting what we are after. The eyes for most people are the most effective way by which to learn. Our eyes apparently deceive us in the tricks of the magician, we don't see everything and our mind can't work out what we don't see. In visits, however, it can well be said that "seeing is believing" and "thinking with seeing" is value.

Are Conditions Different?

(Continued from page 178)

a down payment on the use of our product for perhaps years to come. This is true, however, only to the extent of the quality and durability built into that appliance.

A sectional, state-wide or Pacific coast-wide advertising campaign would prove of infinite value to the industry, in making our public *gas conscious*. The Dodo bird, Pearlina Soap and Father John's Cough medicine all died from a lack of concerted, aggressive advertising. Let not our industry make the same mistake.

New England, the birthplace of the conservative-minded men, has shown us the way with its gas association advertising campaign. The first shot fired in New England has been heard around the world, even on the far-away Pacific Coast. Are we of the far West not well able to accomplish the same thing, that is, to keep our industry in its proper place in a fast-changing economic world?

INDUSTRIAL GAS SECTION

J. P. LEINROTH, Chairman

C. W. BERGHORN, Secretary

C. C. KRAUSSE, Vice-Chairman

Organizing and Operating an Industrial Department

(Continued from page 136)

initiative, "bull dog" tenacity, friendly disposition, and unlimited sales ability.

The path of the industrial gas engineer is usually full of stones at best. The "new ideas" are hard to sell to the gas company as well as to the industrial prospect. Too often thorns are thrust into his side and boulders are pushed into his path because of conflicting ideas and lack of cooperation between him and other departments in his company.

The first "snag" he usually runs into is his relations with the fitting or installation department. Too often, when an industrial gas department is first inaugurated, the installation department, not being familiar with "high-powered" industrial appliances, thinks the activities of the industrial gas engineer will bring only worry and trouble to them.

Much of the success of an industrial sales department depends on the cooperation of the installation department. The coordination of the efforts of these two units should always be in the direction of increasing the sale of gas.

When the industrial gas engineer is first appointed, the management should call a meeting of all the department heads and outline the policy to be pursued in selling industrial gas. It is disastrous when the cooperation of departments can not be secured. It is proper and best that the industrial sales policies be interpreted and led by the industrial gas department with the others following, rather than an attempt be made by the installation department to dominate and interpret these policies.

While in most cases the industrial gas engineer would function best directly under the commercial or new business manager, his division should be separate and independent of the appliance sales division and no attempt should be made to pay the expenses of his department entirely from

Summary 1—Population served, 4,000 to 15,000 —Number of companies represented, 12

Total Present customers		Predominating industries
Class	No.	
Hotel and Restaurant	120	Tobacco, Cotton mills, Lumber mills, Wood working plants, Bakeries, Textiles, Foundries, Battery shops, Brick plants, Rice mills, Laundries, Auto repairs, Machine shops, Agriculture, Railroad shops, Hotels and Restaurants.
Bakeries	13	
Other commercial	376	
Industrial	103	
Total	613	
Average per Company	50	

Summary 2—Population served, 15,000 to 50,000 —Number of companies represented, 9

Total Present customers		Predominating industries
Class	No.	
Hotels and Restaurants	451	Lumber, Wood working plants, Railroad shops, Cotton mills, Dye works, Machine shops, Colleges, Restaurants, Institutions, Oil mills, Fruit packing & pressing, Bakeries, Oil refining, Brick plants, Acid manufacturing plants.
Bakeries	49	
Other commercial	961	
Industrial	101	
Total	1562	
Average per Company	173	

Summary 3—Population served, 50,000 to 425,000—Number of companies represented, 8

Present customers Total		Predominating industries
Class	No.	
Hotels and Restaurants	1232	Restaurants, Hotels, Newspapers, Peanut factories, Plow works, Iron works, Ship builders, Textiles, Stove manufacturing, Boiler works, Enamel ware, Brick plants, Institutions, Machinery manufacturing, Steam power boilers, Foundries, Fabricating, Pipe shops, Laundries.
Bakeries	70	
Other commercial	1233	
Industrial	547	
Total	3082	
Average per Company	385	

(Note: Above does not include Memphis.)

profit on industrial appliances. Such a policy would result in a bankrupt industrial gas division and very little industrial gas sold.

The first step and perhaps the most important in selling industrial gas is the industrial survey. The survey will furnish information as to the types of prospects,

their fuel requirements which are to be translated into terms of gas, the program to be pursued in the sales campaign, the number of men that can be used effectively, and the amount of gas the department should sell from year to year.

In developing the survey a card index should be kept of every commercial and industrial customer as well as prospect. The preliminary survey should give the names of the various departments in each plant with a list of every piece of equipment which uses heat. If the installation is more or less simple, gas consumptions and operating costs can be estimated, and recommendations for gas equipment can be made from the preliminary survey card. However, if the plant is a large one, or if the installations are rather intricate, a detailed survey should be made of each heating operation showing present fuel and estimated gas costs computed on the basis of unit cost of production.

With such a large number of well-designed gas appliances now on the market, the industrial gas engineer should not have much trouble in using standard appliances to take care of most of the heating operations he will encounter.

Typical Prospects

The survey will disclose the best prospects and it is rather good business judgment to go after the best prospects first. In every town can be found some restaurant, hotel, or bakery that has only a limited space for storing coal and perhaps this space is on the second floor. When you find this kind of a prospect, gas can be sold at almost any price.

The leading garage in town might be induced to install an auto-cleaning outfit which uses a gas boiler in order that it can maintain its record of being "best equipped." Some shops that do battery repair work might have requirements for a soft metal furnace. There are more than a thousand uses of the gas boiler, and the survey will find at least some of these uses in your district. You may consider that your gas rate is too high to obtain any retail baking business, but when a baker installs an oven using electricity at a cost of from $1\frac{1}{4}\text{¢}$ to

$1\frac{1}{2}\text{¢}$ per kw.hr., gas could do this same job at \$1.00 per M and save him money. Well-designed portable gas ovens with automatic temperature control are on the market and with these the industrial gas engineer should be able to get his share of the retail bakery business.

Certain retail bakeries operate cafes or restaurants and these might be prospects for heavy or light duty restaurant ranges, griddles, or hot water storage systems. The hotel, restaurant, and bakery load is very desirable and profitable to the gas company because of its high load factor and because it usually works on the top steps of the rate. It will pay any gas company to get this class of business on its mains.

The small machine shops, repair shops, or foundries are prospects for soldering iron furnaces, portable type core ovens, etc. Even with fairly high gas rates, prospects can be developed from these industries because of some peculiar condition in their shop. A survey will disclose these prospects and define their possibilities.

The requirements for a uniform and abundant supply of steam furnished automatically are found in pasteurizing and sterilizing plants, dry cleaning and pressing shops, newspaper and printing plants, bakeries, vulcanizing shops, and bottling plants. Convenience, cleanliness, and automatic control are factors in these industries and gas offers many advantages over other fuels.

When the preliminary industrial gas survey is complete, each prospect card should be classified as to industry and then a study made of each to determine its sales possibilities. Large installations should be carefully analyzed. The sales procedure can best be determined by means of a detailed survey.

It is a good plan to make a study of the competing fuels in the district and work up data and charts showing their relative efficiencies. Of course it is not to be expected that volume gas can be sold on a B.t.u. basis only, as other factors such as quality of product, temperature control, spoilage, interest on fuel storage, insurance,

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COMMERCIAL SECTION

G. M. KARSHNER, Chairman

G. E. WHITWELL, Vice-Chairman

J. W. WEST, Jr., Secretary

Gas Men from 20 States Attend Mid-West Gas Sales Conference

By J. W. WEST, JR.

ALTHOUGH the Mid-West Regional Gas Sales Conference officially covers only seven states, more than 20 states were represented by the 450 attending the third Mid-West Conference, held in Chicago, February 14 and 15.

The major part of the program was devoted to informal discussion of sales plans that had proved successful in the region in the selling of gas service for water heating, house heating, cooking, and refrigeration. During the 1929 conference some changes were made in the program so that about one-third of the time was given to prepared papers and two-thirds of the program to informal discussion. The conference was shortened this year to a two-day session.

B. J. Mullaney, vice-president of the A. G. A., delivered the address of welcome. He stressed the increasing importance of sales activities as a determining factor in the growth of the gas company's business. He stated that present conditions require most careful selection of new salespeople, and that the time had passed when long and loyal service of any employee was regarded as sufficient qualification to make him a salesman. Nobody should undertake, he said, to set a limit on the salesmen's earnings so long as he received a fair share of all his sales activities. Mr. Mullaney referred to the Association's testing laboratory as the longest step taken by any industry toward self-regulation, and for protection of its customers. Advertising, he said, is the advance agent of selling, and it was his opinion that cooperative regional advertising was another important possible way of improving sales and building good will.

Other officials of the Association who spoke were Oscar H. Fogg, President, and

Alexander Forward, managing director. Col. Fogg congratulated the Council on the program and stressed the importance of the regional meetings as a means of keeping the industry's sales methods in step with the times.

Major Forward pictured the changes in living habits and customs of the people that have taken place since the World War. He pointed out the increase in purchasing power of the public and the simultaneous growth of the number of conveniences and comforts that are now regarded as the right of every American citizen. He stated, however, that the growth in the number of new products offered the public has more than equalled their increased purchasing power, so that competition in the sale of home comforts and conveniences is now greater than ever. This makes it imperative that the gas man be well trained in sales matters. The Association has recognized this need by making available the new course in Domestic Gas Salesmanship.

C. D. Williams, executive secretary of the New England Gas Association, described New England's experience with cooperative regional advertising plan. The possibility of inaugurating a similar plan in other regions has awakened great interest in the industry, and it was evident from the discussion that New England's experience is being watched keenly.

One entire session of the conference was devoted to the subject of selling storage water heaters, the papers being devoted to selling water heaters from three different aspects, viz.

1. Continuous Selling with Regular Sales Force, C. A. Nash, United Light & Power, Engineering & Construction Co., Davenport, Ia.
2. Continuous Selling with Specialists, L. R.

Parker, Allied Power & Light Co., Jackson, Mich.

3. Semi-Annual Campaigns with Regular Sales Force, M. B. Buckley, Kansas City Gas Co., Kansas City, Mo.

In summarizing his company's water heating activities, Mr. Nash stated that success depends on:

1. A well organized selling force.
2. Effective window and store displays.
3. A practical market analysis.
4. Use of advertising and direct-by-mail to prepare the way for sales calls.
5. Furnishing every salesman with the proper sales equipment to make his calls effective.

During 1928 Mr. Nash's company sold one storage water heater to every 40 meters.

Mr. Parker outlined in detail the selling tactics utilized in his territory and stated that the sales had risen from one per 104 customers annually in 1926 to one per 16 customers in 1929. At the outset of the activities 25 per cent of the customers had water heaters and of these 80 per cent had tank heaters. The sales plan described related entirely to storage water heaters.

Points of interest in Mr. Parker's paper were arrangements whereby the salesman receives compensation in proportion to the customer's down payment—bonuses for employee leads that prove productive—bonuses for removal of furnace coils—special compensation for water heating salesmen and prospect cards worded so as to make conversation with the customer necessary if the salesmen are to fill them out properly.

M. B. Buckley emphasized the importance of the market survey for prospects if any appliance selling campaign is to succeed. His campaigns incorporated a low down payment feature with a group discount if several appliances are connected at once. Allowances were made for old heaters at a liberal figure and discounts were given to builders. Special emphasis was given to the necessity of having the salesmen properly trained and compensated.

In the two hour discussion that followed, the speakers gave data as to expenses of selling water heaters in their territories. Particular attention was devoted to the subject of salesmen's compensation.

The morning of the second day was devoted entirely to a discussion of selling house heating. Not only gas-designed installations but also conversion installations in natural gas and in manufactured gas territories were covered.

C. H. Kallstedt stated that proper advertising, and follow-up of prospects with direct mail and personal letters had proved an important factor in their house heating activities. In this case a special arrangement was made to spread the customer's payments for the heating installation and the gas consumption more uniformly throughout the year. Active cooperation on the part of heating and piping contractors, he said, was a very helpful factor.

F. M. Rosenkrans told of the sale of conversion installations in natural gas territory. The low first cost of conversion installations, and the fact that the natural gas consumed is furnished at a low rate, have made conversion jobs popular with consumers in his territory, he said. A substantial percentage of those who had first installed conversion installations in Kansas City have been found good prospects for a straight gas designed job at a later date.

W. F. Miller stated that a careful analysis of their house heating sales over the past few years indicated that sales to old homes have been decreasing both in percentage of the totals and in actual number, whereas the sales to new homes had shown a rapid growth. After analyzing all possible causes, it was his opinion that the average home owner was looking forward to the day when he could build a new home and, therefore, desired to modernize his present home at the minimum cost. To meet this condition his company has offered conversion installations during the past year in the effort to increase their sales to present home owners.

During the two-hour discussion that followed the papers on house heating, practically every activity that had been found helpful in promoting gas house heating was discussed.

The final session was devoted to the discussion of selling gas refrigeration and merchandising gas ranges.

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TECHNICAL SECTION

HARRY E. BATES, Chairman

H. W. HARTMAN, Secretary

B. V. PFEIFFER, Vice-Chairman

Important Papers will Be Presented at Distribution Conference



F. M. Goodwin

A PROGRAM dealing with the more important distribution problems of the day has been announced for the annual Distribution Conference of the American Gas Association, to be held at the Hotel Copley Plaza, Boston, Mass., April 3, 4, and 5.

A large attendance of distribution engineers from both the manufactured and natural gas industries is expected, according to F. M. Goodwin, of the Boston Consolidated Gas Co., and chairman of the Distribution Committee of the Technical Section.

All planning to attend are urged to make their reservations immediately.

Following is the program of the Distribution Conference:

April 3, 10:15 A.M.
Opening Remarks,
by F. M. Goodwin,
chairman.

Address, by Dana D. Barnum, President, Consolidated Gas Co. of Boston, Mass.

High-Pressure Distribution, by L. A. Kirch, Midland Utilities Co., Chicago, Ill.

Distribution Portable Equipment, by C. S. Goldsmith, The Brooklyn Union Gas Co., Brooklyn, N. Y.

April 3, 2:00 P.M.
Pipe Coatings and Corrosion, by J. K. Crowell, Westchester Lighting Co., Mt. Vernon, N. Y.

Status of Research Work on Soil Corrosion and Protective Coatings, by K. H. Logan, U. S. Bureau of Mines.

Discussion by American Petroleum Institute representative.

Experience with Pipe Protection, speaker to be announced.

Cast Iron Pipe Standards, by Walton Forstall, The United Gas Improvement Co., Philadelphia, Pennsylvania.



M. I. Mix

April 4, 10:00 A.M.

The Responsibility of the Distribution Engineer, speaker to be announced.

Pipe Joints, by O. S. Hagerman, American Light and Traction Co., Chicago, Ill.

Field Application of Oxy-acetylene Welding, by E. V. Kessinger, The Empire Companies, Bartlesville, Okla.

April 4, 2:00 P.M.

Field Application of Electric Welding, by David L. Brown, Consumers Power Co., Pontiac, Mich.

Meters, by W. H. Bettle, The Public Service Electric and Gas Co., Newark, N. J.

Conversion of Low-Pressure to Intermediate-Pressure Systems, by Joseph Lucena, The Philadelphia Gas Works, Philadelphia, Pa.

April 5, 10:00 A.M.
Unaccounted for Gas, by M. I. Mix, The Peoples Gas Light and Coke Co., Chicago, Ill.

Open Forum.

April 5, 2:00 P.M.
Open Forum.

PRODUCTION AND CHEMICAL CONFERENCE TO BE HELD MAY 27, 28, 29

THE Joint Production and Chemical Conference of the American Gas Association will be held May 27, 28, and 29. The program is in the hands of the Carbonization Committee, the Water Gas Committee, and the Chemical Committee of the Technical Section, under whose auspices the Conference is held.

The Conference will be held at Chicago, Ill.

This Conference has become of great importance to a large number of engineers in the gas industry, and it is expected that men from all over the country will attend.

J. V. Postles, Philadelphia Gas Works, Philadelphia, Pa., is chairman of the Carbonization Committee; J. H. Wolfe, Consolidated Gas Electric Light and Power Co. of Baltimore, Md., is chairman of the Water Gas Committee, and H. J. Rose, The Koppers Company, Pittsburgh, Pa., is chairman of the Chemical Committee.

Organizing Industrial Dept.

(Continued from page 184)

and labor must be considered. However, a chart showing relative fuel efficiencies will be valuable in estimating gas consumption.

It is further recommended that subscriptions be made to various trade journals and gas magazines in which appear live articles on sales as well as engineering phases of the business. A complete index should be kept of all subjects for reference. The industrial gas department in Birmingham keeps an up-to-date index-reference on 75 subjects or applications.

In selecting gas equipment, use standard appliances where possible. Don't try to be furnace designers, because there are enough good furnace engineers out of the gas companies who are specializing in this work. The job of the industrial gas salesman is to line up prospects and sell gas. All the necessary technical information can be obtained from the Industrial Gas Section of the American Gas Association, or from reliable appliance manufacturers.

Assuming that the survey is well on its way, a mailing list should be compiled and direct mail letters should be mailed to logical prospects which tell the story of industrial gas and its advantages. Copies of the *Industrial Gas* magazine serve as good material for mailing direct to prospects. Certain interesting articles should be marked in the index so that special attention will be given to them.

The American Gas Association has made available each month proofs of the industrial advertisements which are appearing in national trade journals. It is recommended that a number of these proofs be mailed each month to a selected list of prospects.

As the survey is continued, prospects will be discovered and sales closed. If the city is a small one, the industrial gas engineer must act as engineer, salesman, and service-man combined. Also, he would look after all phases of industrial heating and his activity would necessarily be general rather than specialized. However, even in some small properties, because of the location of many industries, it may be desirable to add

another man and divide their work as follows: The industrial engineer would look after all general industrial business which includes heat treating, metal melting, core baking, process steam applications, etc. His assistant would probably look after bakeries, hotels and restaurants, space heating, water heating, etc.

Best results can be obtained from specializing the men and assigning them to definite territories. In this way, the men do not wander haphazardly over the entire territory, but rather the district is thoroughly combed and is made to produce its full sales possibilities.

Whether the industrial gas department consists of one man or 30 men, there are certain policies which, if adopted in the beginning, will bring about quicker and greater results in industrial sales. These policies are briefly:

1. The industrial gas engineer should lead in interpreting the management's policies with respect to industrial sales and all other departments who function with him should follow.
2. The industrial gas division should operate independently of the appliance sales division and no attempt should be made to pay the expenses of this department entirely from profit on industrial appliances.
3. Main extensions in commercial or industrial districts should be planned by the engineering or distribution departments only after they have consulted with the industrial gas engineer regarding potential consumption of a certain territory and estimated hourly demands of prospects in that territory.
4. In handling the credit end of the sale of industrial appliances, liberal views should be taken based on sound business judgment, not forgetting the proportionally large gas consumption derived.
5. The industrial gas engineers should be salesmen, not furnace designers.

N. Y. Sales Conference to Be Held May 23-25

THE Sixth New York Regional Gas Sales Conference will be held at Montauk Point, Long Island, May 23, 24, 25. This conference is sponsored by the New York Regional Sales Council with the cooperation of the Commercial Section of the American Gas Association. The conference will be held at the Montauk Inn.

Merchandising

(Continued from page 150)

plaintiff's costs but the worth of its going value. Certainly no company could await the initiative of its prospective customers nor the efforts of others to sell appliances before doing business. It would have to rely upon its own efforts and not those of others. Until the district is equipped with appliances there could be no gas business. The company would have to go after such business very energetically and be prepared to stand the cost of obtaining it as rapidly as possible, getting its profit out of the sale of gas, which would necessarily await the equipping of the district with appliances to use it.

"Irrespective of the extent to which the expense of the appliance business has been included in operating costs, I think that it has a distinct, important, and inescapable bearing upon going value. That is a value which each company has to establish for itself if it is to be successful, and, it seems to me, that one of the most important factors in getting it established is getting the district fully equipped with appliances in the quickest possible time."

Going value has been defined as the difference in value between a brand new utility plant ready to operate and an established operating business with patronage attached. There are many elements that go to make up this value. Special Master Burlingame argued that the money the gas company lost in selling cheap appliances in order to build up its business consumption ought to be thrown in with the other elements in figuring out this value. A decision by Judge Cushman from the District Court of Idaho would indicate that this opinion is probably not unanimous among the Federal tribunals.³

But Special Master Burlingame did not suggest that the losses from an appliance business should be charged directly to utility operating expenses. Until a very recent decision it was generally thought that would not be permitted.

"Why," says the irate consumer, "should my bill be higher just because the company has seen fit to go into an appliance business which doesn't pay?"

Yet the supreme court of Kansas has gone this far and has shown how a gas company and its customers might be benefited by the sale of appliances, even at a loss. Gas com-

panies forty years ago were chiefly engaged in selling gas for illuminating purposes. Then electricity came and gas men were obliged to go in for heating and cooking. Soon electricity began to invade this field also. Something had to be done to prevent decreasing consumption of gas and consequent loss of revenue.

When the Henry L. Doherty interests took over the Wichita Gas Company in 1925 gas consumption was at its very lowest ebb. Mr. Doherty caused quite a stir in business circles by stating some years ago that he was willing to spend a dollar for every dollar of additional revenue. Whether or not everyone agrees with this business policy, the fact remains that as soon as the Doherty interests took over the Wichita Company, things began to happen. The gas men realized and history has proven to them that they could not cope with the electrical invasion by passive retreat. The only way was to fight back and to show that gas appliances were better or cheaper than electric appliances. Water heaters, flatirons, gas engines, everything that could possibly and practicably consume gas was "pushed." Following out Mr. Doherty's policy the Missouri Valley gas companies began to "come back." An energetic merchandising campaign was started. High-powered sales forces were organized to canvas the city residential sections in an effort to show housewives that they could do things with gas just as well as with electricity. At the end of 1927 revenue per customer had risen from \$52.50 to \$61.61. The campaign did not stop with recapturing old fortresses. The fight was carried into the territory of electric companies. The field of refrigeration, previously invaded by the electric companies, was entered by the gas companies, competing for the business.

Nevertheless, this merchandising enterprise cost the Wichita Company \$66,000. The company claimed that this loss should be charged to annual operating expenses because with the new policy well under way, similar expenses were likely to recur in the future years. The court agreed with this contention.⁴

"Our business was doomed unless we could make people use more gas. The only way to make them use more gas was to sell them things to use it. If these things were not sold cheaply and advertised exhaustively, people would not buy them. Therefore, the rate payers ought to help out with this expense because if we had not done it in this way we would have had to raise rates far more than we are now asking or else fail entirely, in which event everybody would lose out."

The court, in the Wichita case, held that how far a company may go in selling appliances at a loss for the purpose of stimulating the sale of gas is a question of policy for the managers of the companies.

So, then, to sum the matter up, we have at the present time three methods of treating merchandising by public utilities: First, to regard the business as separate from utility service, and, therefore, a case for separate accounting; second, to regard it for convenience of accounting as part of utility business where such treatment will not perceptibly decrease strict utility revenue; and, third, to regard it as a legitimate utility business sideline, for the purpose of stimulating sales of utility service, so that losses incurred in the enterprise may be treated as an element of going value, or charged directly to operating expense. The law in respect to merchandising by public utilities is, therefore, still in a state of flux.

¹ Customer v. Cohoes Power & Light Corp. (N. Y.).

² Brooklyn Gas Co. v. Prendergast (N. Y.).

³ Idaho Power Co. v. Thompson.

⁴ Wichita Gas Company v. Public Service Commission.

Gas and Ceramic Week

(Continued from page 160)

ucts are recovered. These by-products are wasted by the crude fuel user. The resultant gas produced is then delivered in the final form of a refined fuel for use at various points where heat is needed in the ceramic industry. In this manner the burden and responsibility of fuel problems, such as transportation, handling, storage and purchase are eliminated for the ceramist. These functions are all performed by the utility for him."

Of enticing interest was the divulging of various secrets having to do with the ceramic industry, that have remained hidden for

thousands of years. An ancient secret relative to coloring in enamels, clays and terracotta, lost for 2000 years, has been recovered and was demonstrated. Blues and opaque shades of Egyptian Cornelian glass that the world has long tried in vain to reproduce can now be effected through a new ceramic process. Acid-proof enamels sought since the beginning of civilization, and colors to match the treasures dug from ancient tombs were displayed.

Sales Conference

(Continued from page 186)

H. C. Wandas, Chicago, described 1928 activities in the sale of gas refrigerators which resulted in the sale of 942 units. All forms of advertising were used and bill inserts were found to be especially helpful. Mr. Wandas stated that the service activities necessary in connection with gas refrigerators were constantly declining and that he could not understand why practically every gas company is not actively promoting the sale of gas refrigerators. His company quota for 1929 is 3000 units.

Chas. A. Luther opened the discussion on merchandising gas ranges by describing the method and results used in Chicago. E. J. Good gave a similar discussion for range merchandising in small towns.

The closing remarks of the conference were delivered by C. N. Wheeler, assistant to President, Illinois Power and Light Corp. Mr. Wheeler predicted that during the next generation the gas and electric industries would become the most important socializing forces in the nation's history by eliminating labor and improving health conditions of the country by bringing about better atmospheric conditions through the universal use of gas house heating.

At the close of the meeting the Chairman on behalf of the conference thanked The Peoples Gas Light & Coke Co. for the courtesies extended to those present and it was voted that the American Gas Association be thanked for its activities in sponsoring the annual regional conference.

Associations Affiliated with A. G. A.

Canadian Gas Association

Pres.—Frank Elcock, Ottawa Gas Co., Ottawa, Ont.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., June 13 & 14, 1929, Ottawa, Ont.

Empire State Gas and Electric Association

Pres.—Chas. S. Ruffner, Mohawk Power Corp., Albany, N. Y.
Chairman Gas Section—H. E. Merrill, Republic Light & Power Co., Tonawanda, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Conv., 1929.

Illinois Gas Association

Pres.—J. A. Strawn, Central Ill. Light Co., Peoria, Ill.
Sec.-Tr.—George Schwaner, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., March 14-15, 1929, Springfield, Ill.

Indiana Gas Association

Pres.—T. J. Kelly, Northern Indiana Public Service Co., Fort Wayne, Ind.
Sec.-Tr.—F. W. Budd, Central Indiana Gas Co., Muncie, Ind.
Conv., May 1-2, 1929, Gary, Ind.

Michigan Gas Association

Pres.—F. A. Newton, Consumers Power Co., Jackson, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., July 1 to 3, 1929, Mackinac Island, Mich.

Mid-West Gas Association

Pres.—Louis Stein, Minneapolis, Minn.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.
Conv., 1929, Minneapolis, Minn., April 15-17, 1929.

Missouri Association of Public Utilities

Pres.—A. E. Reynolds, Springfield Gas & Electric Co., Springfield, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., 1929, Sedalia, Mo.

New England Gas Association

Pres.—G. W. Stiles, Portland Gas Light Co., Portland, Me.
Exec. Sec.—C. D. Williams, 41 Mount Vernon St., Boston, Mass.
Chairman Operative Div.—Isaac T. Haddock, Cambridge Gas Light Co., Cambridge, Mass.
Secretary Operating Div.—H. G. Taylor, Lawrence Gas & Electric Co., Lawrence, Mass.
Gov. Sales Div.—J. H. Sumner, Cambridge Gas Light Co., Cambridge, Mass.
Pres. Industrial Div.—L. B. Crossman, Boston Con. Gas Co., Boston, Mass.
Sec.-Tr. Industrial Div.—L. E. Wagner, Providence Gas Co., Providence, R. I.
Chairman Acctg. Div.—R. D. Washburn, Massachusetts Lighting Co., Boston, Mass.
Sec.-Treas. Acctg. Div.—Otta Price, Boston Con. Gas Co., Boston, Mass.
Chairman Manufacturers Div.—T. F. Piser, Welsbach Co., Boston, Mass.
Sec.-Treas. Manufacturers Div.—J. H. McPherson, 7 Water St., Boston, Mass.
Conv., 1929.

New Jersey Gas Association

Pres.—H. A. Stockton, County Gas Co., Atlantic Highlands, N. J.
Sec.-Tr.—Louis Stoecker, Public Service Electric & Gas Co., Newark, N. J.
Conv., April 24 & 25, 1929, Stacey-Trent Hotel, Trenton, N. J.

Ohio Gas and Oil Men's Association

Pres.—J. J. McMahon, The East Ohio Gas Co., Cleveland, O.
Sec.-Tr.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, O.
Conv., March 5 & 6, 1929, Columbus, Ohio.

Oklahoma Utilities Association

Pres.—L. W. Scherer, United Telephone Corp., Yale, Okla.
Mgr.—E. F. McKay, 1020 Petroleum Bldg., Oklahoma City, Okla.
Conv., March 12-14, 1929, Oklahoma City, Okla.

Pacific Coast Gas Association

Pres.—C. H. Dickey, Hotel Fairmont, San Francisco, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., Sept. 10-13, 1929, at Del Monte, Calif.

Pennsylvania Gas Association

Pres.—Grier Hersh, Pennsylvania Gas & Electric Co., York, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Conv., April 10 & 11, 1929, Benjamin Franklin Hotel, Philadelphia, Pa.

Pennsylvania Natural Gas Men's Association

Pres.—George W. Ratcliffe, Columbia Gas & Electric Corp., Pittsburgh, Pa.
Sec.-Tr.—H. A. Gager, 2017 Farmers Bank Bldg., Pittsburgh, Pa.
Conv., 1929.

Southern Gas Association

Pres.—Roy A. Zeigler, Jacksonville Gas Co., Jacksonville, Fla.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., April 23-25, 1929, Memphis, Tenn.

Southwestern Public Service Association

Pres.—W. H. Burke, Stone & Webster, Inc., Houston, Texas.
Chairman Gas Section—R. A. McNeas, San Antonio Public Service Co., San Antonio, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
No Convention, 1929.

The Public Utilities Association of Virginia

Pres.—A. W. Higgins, Virginia Public Service Co., Charlottesville, Va.
Sec.—A. B. Tunis, 301 East Grace St., Richmond, Va.
Conv., 1929.

Wisconsin Utilities Association

Pres.—C. R. Phenice, Wisconsin Public Service Corp., Green Bay, Wis.
Exec. Sec.—J. N. Cadby, 432 Broadway, Milwaukee, Wis.
Meetings of Sections.

Eleventh Annual Convention of the American Gas Association
Atlantic City, N. J. October 14-18, 1929

Annual Meeting of Natural Gas Department
Kansas City, Mo. May 6-9, 1929

Employment Bureau

(Address All Communications to Key Number)

SERVICES REQUIRED

A LARGE GAS COMPANY in an Eastern city wants an industrial gas man of some experience. Address A. G. A.

Key No. 0130.

INDUSTRIAL AND HEATING ENGINEER—Midwestern natural gas company just opening new territory in Black Hills, South Dakota, desires technically trained man about 35 years of age with experience in heating and in application of gas to industrial processes and plants to develop industrial, commercial and heating sales. Address A. G. A.

Key No. 0133.

HOUSE HEATING ENGINEER. Midwestern natural gas company just opening new territory in Black Hills, South Dakota, desires technically trained man about 35 years of age with house heating experience to check and service existing furnace installations and to develop and organize such inspection in other towns now served. Address A. G. A.

Key No. 0134.

A HOLDING COMPANY desires to secure the services of a young engineer with four to six years' experience in distribution work, thoroughly familiar with mains and transmission lines. Please state full qualifications in first letter and salary expected. Address A. G. A.

Key No. 0135.

GAS SALES ENGINEER—Experienced in househeating. State complete details as to experience, age and salary desired. Address A. G. A.

Key No. 0136.

MIDDLE WEST gas company in process of developing natural gas properties in North Dakota, South Dakota and Montana has opening in its general office for gas engineer experienced in design of distribution systems, construction and operation of gas properties. About 35 to 40 years of age. Give detailed experience and salary expected in applying. Address A. G. A.

Key No. 0137.

WANTED—Young Gas Engineers. Technical men with one or more years experience in either Distribution or Works, or both, with a very progressive company in the Central States. Opportunities excellent for rapid promotion. State full details in first letter. Address A. G. A.

Key No. 0138.

SERVICES OFFERED

CHEMICAL ENGINEER—38 years of age—15 years' experience in water and Coal Gas Plant operation, construction, distribution, and By-Product Plant work, desires connection as Gas Engineer with a holding company, or large individual gas company. Address A. G. A.

Key No. 265.

WANTED—Position as manager of a small gas company or assistant superintendent of a larger company, by practical man, 36 years old. Married. 12 years' experience including water gas plant operator both high and low pressure, also all branches of distribution. Best of references. Address A. G. A.

Key No. 266.

GAS ENGINEER with twenty years' wide practical experience in the design, construction and operation of coal, water, coke oven, and natural gas plants and distribution systems located in all parts of the U. S. A., is desirous of an opportunity in a similar capacity with consulting engineer or holding company. Experience covers large, medium and small properties. Technical education. Address A. G. A.

Key No. 268.

WANTED—Position as manager of industrial department as well as house heating, commercial, hotel and restaurant work. Now with large company in above capacity. Middle age, good experience and reference. Can handle large job. Address A. G. A.

Key No. 269.

MANAGER OR GENERAL SUPERINTENDENT—25 years' experience in the construction, manufacture, distribution, valuation, public relations, and sales. Both coal and water gas, high and low pressure. Age 40 and married. Good references. Address A. G. A.

Key No. 270.

EXECUTIVE, graduate engineer, 15 years' experience, construction, operation, management, mostly elec-

tric light and power public utilities. Schooled by a financial leader of the industry, especially in reduction of operating expenses. Knowledge of state regulatory requirements. Would be interested in holding company appointment, preferably salary plus percentage of effected savings per annum. Address A. G. A.

Key No. 273.

OPPORTUNITY to secure services of experienced gas range salesman as representative of manufacturer in Eastern Territory. Knowledge of gas appliances covered by 15 years' experience, both local and traveling. Utility and general trade. Available January 1, 1929. Address A. G. A.

Key No. 276.

GAS ENGINEER. College trained, thirty years old, married and employed at present. Nine years' experience in operation many types and sizes of coal, water, blue and producer gas plants. Address A. G. A.

Key No. 277.

EXPERIENCED CONSTRUCTION ENGINEER and designer with a good technical background and structural steel experience desires to locate in New York or vicinity. Address A. G. A.

Key No. 278.

EXECUTIVE, graduate Mechanical Engineer with 20 years' experience in design, construction, operation and management of Gas Properties. Competent to handle all local affairs, increase business and reduce operating costs. Would like appointment as Manager of small property, or Division Manager or Gas Engineer of close connected group. Age 41. Married. Good references. Address No. 279.

Key No. 279.

AVAILABLE—A man who is employed at present as an Engineer at one of the properties of a large holding company. During his ten years in the business he has been cadet engineer, plant foreman and superintendent's assistant in large plants and manager of a small property. Thorough knowledge of water gas operation, high- and low-pressure distribution, and office routine. Technical graduate, 39 years of age. Address A. G. A.

Key No. 280.

ENGINEER with 7 years' experience in gas and electric utility construction, maintenance, operation and accounting, desires new connection as manager, assistant manager, or superintendent of small utility. New England preferred. Address A. G. A.

Key No. 281.

SALESMAN with wide experience, including sales promotion, desires connection as representative for manufacturer. Acquainted with gas companies and dealers in territory from Boston to Washington. Proposition on agency basis for Eastern territory or Pacific Coast also considered. Address A. G. A.

Key No. 282.

MAN with 16 years' experience as manager of two companies in cities of about 100,000 inhabitants, desires connection with similar or smaller company making water gas. In last connection reduced cost of gas in holder 20 cents per M in last four years. Can give best of references. Address A. G. A.

Key No. 283.

GAS DISTRIBUTION ENGINEER. Also fully acquainted with manufacture and utilization. Understands the necessary methods of handling the public and municipal officials. Ready to serve at once. Will go anywhere, if position is permanent. References will be given by district or city or other local and managing companies. Address A. G. A.

Key No. 284.

GAS ENGINEER, college education, with twelve years' experience, first four with Coal Gas & Electric Co., last eight years as manager of small Water Gas Co., desires position as manager or assistant manager of a gas or combination company. Address A. G. A.

Key No. 285.

WANTED—Position as manager in medium sized company. Have had twenty-one years' experience as manager. Am familiar with coal and water gas manufacture. High- and low-pressure distribution. Am considered a good merchandiser. Can go anywhere at once. Address A. G. A.

Key No. 286.

XU

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